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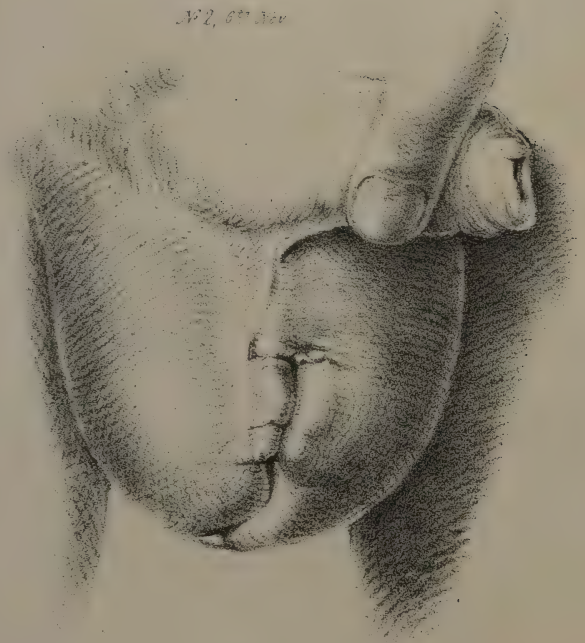

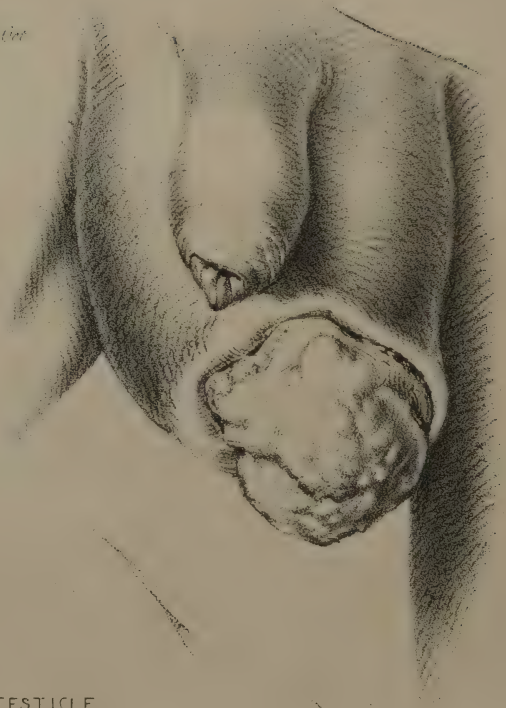

Mr SYME

ON FUNGUS OF THE TESTICLE

F. Schenck, Lith.

THE

LONDON AND EDINBURGH

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Surgical Cases and Observations. By* JAMES SYME, Esq., *Professor of Clinical Surgery, and Surgeon to the Queen in Scotland.*

NO. XXIV. FUNGUS OF THE TESTICLE.

IN the year 1808, Mr Lawrence published a paper in the *Edinburgh Medical and Surgical Journal*, on what he entitled "a peculiar affection of the testis, attended with the growth of a fungus from that organ." The objects of this communication were to point out a disease which, though of frequent occurrence in practice, he believed had not been described by any surgical writer, and to show that the operation of castration was not, as had been supposed, requisite for its remedy. "The patient," says Mr Lawrence, "has generally assigned some blow or other injury as the cause of the complaint; in other instances it has originated in the hernia humoralis from gonorrhœa, and sometimes has appeared spontaneously. A painful swelling of the gland, particularly characterised by its hardness, is the first appearance of the disease. After a certain length of time, the scrotum, growing gradually thinner, ulcerates; but the opening which is thus formed, instead of discharging matter, gives issue to a firm, and generally insensible fungus. The surrounding integuments and cellular substance are thickened and indurated by the complaint, so that there appears to be altogether a considerable mass of disease. The pain abates, and the swelling subsides considerably, when the scrotum has given way. In this state, the disorder appears very indolent; but if the fungus be destroyed by any means, the integuments come together, and a cicatrix ensues, which is inseparably connected to the testicle.

An examination of the part, while the fungus still remains, discloses to us the fact, that this growth has its origin in the glandular substance of the testis itself; that the coats of the part are destroyed to a certain extent; and that a protrusion of the tubuli seminiferi takes place through the aperture thus formed. I have often ascertained the continuity of the excrescences with the pulpy substance of the testis, of which we shall find more or less remaining, according to the difference in the period of the disorder. It appears to me, that the glandular part of the testis experiences an inflammatory affection in the first instance, in consequence of the violence inflicted on it; and that the confinement of the swollen substance, by the dense and unyielding tunica albuginea sufficiently explains the peculiar hardness of the tumour, and the pain which is always attendant on this stage of the disorder. The absorption of the coats of the testis, and of the scrotum, obviates the tension of the parts, and thereby restores ease to the patient, at the same time that the fungus makes its appearance externally." Having thus described the disease, and explained its nature, Mr Lawrence recommended removal of the fungus, by means of escharotics, ligature, or the knife, which he preferred, as the proper mode of treatment, instead of castration; and then related several cases, in illustration of these views, practical as well as pathological, which he had been led by observation to adopt.

The subject, thus placed in so clear a light, has for many years been familiar to the profession; and though it would be easy for any one knowing the disease to find allusions implying acquaintance with it in the works of earlier writers, the merit of originality is justly due to Mr Lawrence for directing attention to fungus of the testicle, and determining its proper position in the system of morbid anatomy. But the establishment of a treatment so much more mild and creditable to surgery than that which had formerly been employed for its remedy, constitutes a stronger claim of merit, and one to which his right is still less liable to be disputed; since where we find the disease most distinctly noticed, removal of the organ is held to be its only remedy. Thus in stating the circumstances that require castration, Sabatier tells us, that " when in the progress of an abscess occasioned by an injury of any sort, or proceeding from internal causes, there issues from its opening a fleshy fungus, which swells out, and expands over the edge on all sides, discharging thin and ill digested matter, we must resort to this operation."[1]

Still, however, fungus of the testicle could not be considered a satisfactory subject of surgical practice, for it was plain that a portion of the gland must be sacrificed in order to preserve the remainder; and, as appears from dissection, the destruction, with this view, may require to be carried so far as to leave nothing more than the epididymis. It was found, too,

[1] Médecine Operatoire, 1796, t. i., p. 401.

that the treatment, whether conducted by escharotics or the knife, was necessarily tedious, so as even to extend over a period of many months. Indeed Mr Lawrence admits that the inconvenience thus experienced, may induce a patient to propose, and a surgeon to perform removal of the testicle, on the ground of expediency. I have therefore great pleasure in communicating a mode of treatment which completely remedies both of these imperfections,—by preserving the testicle entire, and completing recovery in a much shorter time than even if the summary process of castration were adopted.

When the fungous growth is divided longitudinally, that is from the base towards the circumference, it may be seen to consist of two textures, distinguished by their colour and arrangement. One is brown and disposed in straight lines, radiating from the base, where they are nearly, or quite close together, towards the circumference, where they are more or less apart, according to the size of the excrescence. The other is white and granular, lying in the spaces which are afforded by the diverging rays. The former is composed of the tubuli seminiferi, altered in situation but not in structure, while the latter is simply organisable lymph that has been effused into the interstices. The relative proportion of these textures may be seen best by making successive sections of the fungus, parallel with its base. Here the substance of the testicle appears little if at all altered, and presents a mass of uniform brownish colour. But in proceeding towards the circumference, each slice shows more and more of the white interstitial substance, until it seems to be the sole constituent. In addition to these facts, which are within reach of the naked eye, Mr John Goodsir detected in a fungus which I gave him for examination, by the microscope, that it was covered externally by a thin layer of substance possessing the characters of a granulating surface. So that the excrescence might be regarded as merely an extreme degree of exuberant granulation, or what in vulgar language is called "proud flesh."

This observation suggested to me the idea, that by the use of proper means the fungus might be made to retrace its steps, through absorption of the white substance and gradual approximation of the brown, and that the granulating materials of the surface might thus be enabled to complete the healing process. Pressure was obviously the agent on which reliance should be chiefly placed for producing the effect desired with this view, and the most convenient mode of compressing the growth, seemed to be enclosing it within its proper covering of the scrotum. There is no loss of substance in this part, as the fungus issuing through a small ulcerated orifice, merely presses the integuments aside, so that they are found lying in loose folds above the dense ring that encircles the neck of the protruded mass. It must therefore be easy to obtain from this source, an abundant supply of materials for the purpose.

In my Clinical Lectures last winter, I explained these principles,

and tested their soundness on a patient in the hospital, with the most satisfactory result.

CASE 1. Andrew Ayton, aged 26, from Penicuick, was admitted on the 8th of January last, on account of sores upon his legs, and a fungous excrescence from the testicle, about the size of a filbert. On the 15th I cut round the fungus, and extended the incision upwards as well as downwards, so as to give it an elliptical form. The integuments were then separated on each side, and brought over the growth, where they were retained by three stitches. The scrotum was supported by plasters and a bandage. It appeared at first as if union by the first intention had taken place completely; but part of the wound suppurated, without, however, showing the slightest disposition to protrude. The patient might have been allowed to go home soon after the operation, but was retained until the wound had fairly cicatrised, and left the hospital on the 9th of February.

As the fungus in this instance was of a small size, the following case, which exhibited the disease in its most formidable aspect, will probably be considered better evidence in favour of the treatment —though, I believe the truth to be, that the obstacle to recovery is greater when the excrescence is small, than when it has attained a larger extent—since the tendency to protrusion must be stronger in the former condition than in the latter.

CASE 2. William Smith, aged 38, from Berwick-on-Tweed, recommended by Dr Cahill, was admitted on the 13th of October last, on account of a fungus of the testicle. As may be seen from the drawing, (see fig. 1,) it was of a large size,—and in fact comprised nearly the whole testicle, so that hardly any thing more than the cord and epididymis remained within the scrotum. It was attributed to the effects of a blow.

On the 15th, I proceeded as in the former case, but of course found it necessary to make a much more extensive separation of the scrotal integuments, in order to obtain a covering for the fungus. Complete reduction having been effected, the edges of the wound were stitched together, and carefully supported by straps of adhesive plaster applied round the scrotum, which had been shaved to permit their employment. A T bandage was then put on to keep the parts more securely steady. No unpleasant symptom followed the operation, and at the end of a fortnight the cure might be nearly considered complete; and I believe would have been so, if the thick and indurated margin of integuments surrounding the neck of the fungus had been cut away. But in the course of another week there could be no hesitation in regarding the patient as entirely well; and the drawing then taken shows how perfectly the parts had regained their natural condition. (See fig. 2.)

It was well said by an excellent surgical writer of the last century, that "a grain of matter of fact to a practical surgeon is worth a pound of reasoning," and, I accordingly hope, that the results of

these cases will outweigh the various speculative objections which have been, or may be urged against the practice now proposed. The only one of these which I think it worth while to notice, as being the principal difficulty *à priori* with gentlemen for whose opinion I have much respect, is, that the surface of the fungus would not unite with the superinduced integuments. For my own part, I never entertained any apprehension of inconvenience from this source, and fully expected—what we now see actually happens—that the surface of the fungus being coated by a texture of granulating nature, would unite with the raw surface of the integuments so soon as it became encrusted with effused lymph. But even if this union had not taken place, the object in view would still have been attained, though not quite so speedily, by shrinking of the fungus through absorption of the substance effused into the interstices of its tubular texture, and contraction of the granulating cavity in which it lay until cicatrization was completed. It is now ascertained that the shorter process is followed; and in order to facilitate it as much as possible, I think it will be expedient always to remove the hard ring of skin through which the fungus protrudes, so that the whole integument concerned may be competent for adhesive action not only on the surface, but also between its edges.

ARTICLE II.—*Observations on Diseases of the Ear; and on the importance of their Minute Investigation, as tending to their more accurate Diagnosis and successful Treatment. By* ADAM WARDEN, M.D., F.R.C.S.E.

THERE is little danger of being misunderstood when we assume inflammation as the starting point of most of the important diseases to which we are liable, as well as being that morbid condition over which our art has most power. Yet, this condition is found modified by such a variety of circumstances, constitutional and incidental, or arising from the peculiarity of the part affected, as to demand much discrimination in diagnosis, and to afford scope for varying judiciousness in treatment. There needs some limitation of the adage, that a tyro may dictate the treatment when the disease is known; but to tell what the disease is, "hoc opus est," and this difficulty of determining the exact nature of a variety of morbid affections, from which the light is naturally, though not inevitably, shut out, has, to a considerable extent, precluded them from the benefits of improved medical science. Physical investigation has almost perfected our power of determining the state of disease in the lungs; and could remedies be brought to bear as directly as they are suitable, art, if the expression be allowable, would there almost dispute the empire of disease. It were well if the same zeal

of observation and precision of diagnosis were applied to several other important regions, namely, the open cavities of the body, the diseases of which we may reasonably conclude are no otherways intractable by art, than from the want of light and facilities for taking advantage of it by specula, so constructed as to be the convenient media of such direct topical applications as circumstances may require.

The object of this communication is confined to some cursory notes of affections of the ear, which have presented themselves to me under the advantage of my prismatic speculum, applicable to this particular region. The other fields of observation by the prism, to which I have alluded, though more interesting, have not yet afforded me an extent of experience sufficient to be cited at present.

The causes which excite, and the symptoms which characterise simple acute inflammation, are too well marked to escape the observation of the patient, or to be left to pursue their course without check from the usual expedients of art, for the relief of at least the prominent symptoms. But in such important organs as the eye and the ear, the mere arrest of the progress of disease, or its partial removal, is not an issue which affords satisfaction either to the patient or the practitioner; and it is of equal interest to both, that it should be well understood, that the judicious and timeous employment of treatment affords the only security for preserving these delicate organs under a state of disease; and still more, for recovering them from injury resulting from neglect or malpractice. Acute idiopathic otitis is a comparatively rare affection, and when it does occur, the severity of the symptoms secures the employment of energetic remedies, and the watchful superintendence of the case to a termination. It is in those secondary, and generally subacute and unhealthy forms of disease, which complicate or follow the eruptive or other fevers of childhood, that the disease manifests a more inveterate character and course, becoming in a manner engrafted upon the period of convalescence, and continuing its growth apace with the general restoration of health. Inflammation in the ears seldom, however, terminates in complete resolution; and this is in some measure explained by the peculiar anatomy of the parts;—the bony and cartilaginous barriers by which they are in a great measure isolated from the force of the general circulation, equally placing them at a disadvantage for recovering equilibrium with it, when general excitement has subsided. Diseased action, therefore, being once set up, has, by the laws of the system, a tendency to maintain itself, unless counteracted by art. When suitable topical means are employed, a cure is perfected; but if these are neglected, or not adopted until after structural changes have taken place, the nature of which are often only to be conjectured, the suitableness, as well as the effect of remedies, must be equally uncertain. The terminations or products of inflammation in the ears, present all

the diversity which is found to attend in other situations, the intimate complication of so many different tissues. Yet, as before adverted to, the somewhat insular character of disease there, gives origin to well-marked peculiarities, which demand more than ordinary attention and discrimination on the part of the observer, in order to the adoption of such corresponding modifications of treatment as are required. The researches of Mr Toynbee, tending to prove the non-vascularity of cartilage, and of certain tissues of the eye and the joints, seem calculated to explain, in some measure, the peculiarities of disease here alluded to.

The high value of numerous modern scientific works which treat expressly of the diseases of the ear, is not more generally confessed than the very extensive prevalence of incurable or uncured disease in those organs. Some other explanation must be sought for this, than is to be found in the mere fallacy of science, or the inaccuracy of these authorities. The fault may be suspected rather to lie with the profession at large who have not equally laboured in or sought to reclaim this too little cultivated region of disease; and, while those systematic works which are based upon true data will not be displaced in credit by any apparent discrepancy in new observations, it is to be borne in mind, that science is only to be advanced by additional contributions of facts and experiences. I have found, and do foresee, that observations practised with the advantage of the prismatic specula, must give rise to a more exact knowledge of pathological phenomena, and to clearer indications for treatment. Such results as may present themselves to me from time to time, I shall not fail to submit to the profession, whether confirming or seeming to discord from common experience.

Practised observers have remarked, that vegetations in the meatus externus generally indicate a serious disease, involving the cavity of the tympanum. It is not less matter of certain observation with me, that such vegetations are far from affording any conclusive proof of this, such as to warrant a discouraging prognosis, and that this condition is often very evanescent and unimportant, as regards the safety of the organ of hearing. Such vegetations I have been accustomed to see accompanying a catarrhal form of otorrhœa confined to the dermoid investment of the meatus externus, and disappearing as rapidly and completely as the simple affection giving rise to them. This catarrhal inflammation I find reason to regard as among the most common of all the primary forms of disease in the external ear. The symptoms are commonly so slight and temporary at first, as often to escape observation, being attended merely with transient stings of pain and itching; and it is only after the lapse of a week or two, that a degree of deafness may be perceived. If the organ is inspected with the prismatic auriscope, in this the first stage of the disease, the lining of the passage is found dry, its colour heightened by increased vascularity, and the membranum tympani is without the natural glistening moisture of surface which

belongs to it. This slight affection disappears, if it have the advantage of being conjoined with general catarrh, which demands confinement and protection from the weather. Should this not be the case, it proves the advanced post of another attack, or an affection more acute than the first, proceeds to tumefaction and relaxation of texture of the cuticular lining of the meatus, which assumes now the character and secretions of a mucous membrane. At this period, the affection may again pause. The attendant discharge, by relieving the deeper and more unyielding portions of the linings and the vessels in the neighbourhood of the membranum tympani, as well as those of that membrane itself, is generally attended with the almost perfect return of hearing. And in those who are subject to such attacks, it is common to find the recurrence of discharge regarded as critical and salutary. This, however, is obviously now a weakened organ; and by the greater capacity of its blood-vessels, it is capable of being the seat, and of affording fuel for the maintenance of the more substantial effects of inflammatory action, such as preternatural nutrition and thickening of the walls of the passage, whereby its dimensions are narrowed, or giving rise to the development of fungoid granulations and polypous growths. These successive steps of disease may proceed without any considerable prejudice to hearing, and without being thought of sufficient importance to be made the subject of medical treatment or advice. It is only when hearing has become seriously impaired, with or without the presence of pain, that the now aggravated disease is presented for cure. The previous history is overlooked by the patient, and with the imperfect view to be obtained of the state of the membranum tympani, whether it is involved in congestion, or otherwise affected with disease, the surgeon may well feel at a loss, who estimates rightly the importance to the patient of the conclusion he may form. If the membranum tympani is already in a state of arterial congestion, the means which may be calculated speedily to remove the exterior characters of disease, will, with equal probability, aggravate the more important,—the all-important complication. Or, suppose the case to appear in another form, and that the fungoid granulations have been already dispersed through absorption, effected by the use of some nostrum, whose efficacy has also been further tried by direct application to the membranum tympani itself, whereby more or less opacity and thickening have been unsuspectingly induced: without narrow investigation, and the detection of the real state of matters, the surgeon cannot give a just prognosis of the probability of cure, any more than he is likely to effect it by random applications.

It is important, that it should be better understood than it is, that loss of hearing is a symptom of disease, which does not differ in nature from other symptoms of disease with which medical science is generally conversant. The minds of many, even of the intelligent part of the community, are so prepossessed with the

imagined power of empiricism over these organs, as to believe, that every interposition of art, for the relief of their diseases, may, and ought, to operate as a spell, and to afford a complete, if not an immediate cure. The hidden nature, and frequently unsuspected extent, of morbid alterations in the ear, suffices to account for the imperfect success which often attends their treatment. By the convenient introduction of light, through the medium of the prismatic auriscope, the minutest visible features of disease situate in the meatus externus, and its termination, are at once detected; and we are enabled to inspect from day to day the changing aspects of the case, to watch the effects of our remedies, and to vary them suitably to circumstances. When neglected or mismanaged disease here is brought under actual observation, there is no room left for surprise that the best directed efforts of art should prove unavailing. Only a small measure of improvement, if any, can be hoped for, where important parts have sustained injury, or where structural changes have been confirmed by time, or the sensibility of the auditory nerve itself is impaired or annihilated. Yet, even when great, and what might be thought ruinous injury, has been inflicted by disease, we find, especially in early life, that a great measure of repair and restoration of function may take place, through the joint influence of time and proper treatment. Such a desirable issue will be attributable partly to the regeneration of lost parts, and in no small degree to the development of mind, and the beneficial exercise of the organ of hearing, solicited by music, and pleasing discourse, and listening to interesting reading.

My experience in diseases of the ear, is far from warranting heroic plans of treatment. The import of all that I have seen goes to impress me with the extremely delicate character even of the visible structures of the ear. I have often been struck with surprise and dismay at the rapidity with which the most hopeful changes in the condition of disease, have been swept away like a cob-web upon a very trifling variation of the strength of an officinal lotion or ointment, or even a very gentle use of the syringe. So much does this tendency to the development of action reign and manifest itself alike under different circumstances, and upon the application of morbid or medicinal agents, that I am led to regard it as peculiar to the organs in question, or analogous only with the sensibility of the eye itself. However this susceptibility may be accounted for, I have found it very important to be kept in view in practice, and am very uniformly accustomed to make a test of its degree by a preliminary experiment, before determining upon the plan of treatment. Other stimulants may answer the purpose of a test such as I employ, but *iodine* is that to which I give a decided preference; as, besides being a very energetic excitant, it possesses remarkable power as an alterative. By these double properties, healthy action is often at once brought about, and sustained. The object and general effect of the test is, to pro-

duce a measure of excitement. This sometimes assumes the character of irritation and inflammation, during the persistence of which, opacity of the membrana tympani, if it had existed before, will often be increased, attended with aggravation of the dullness of hearing. If the stimulant be not too soon repeated, these effects subside, and in the course of the return of the circulation in the parts to the normal state, previous morbid changes, such as chronic or recent opacity, fungi, or indolent ulceration, are frequently found to have given place to healthy action, and a rapidly sanatory process. The personal history and previous treatment materially affect the prognosis and curability of diseases of the ear. When the scrofulous diathesis or the venereal taint is present, it gives rise to irregularities and interruptions of healthy processes, such as are only to be controlled by remedies directed to the regulation of the general health; and when the membrana tympani has acquired a leathern density, from the irritation of pungent nostrums, art contends with such a barrier almost in vain. Hereditary delicacy of the organs gives a disposition to diseased opacity of the membranes and paralysis of the nerve, analogous to albugo and amaurosis occurring in the eye; and if the latter affections demand for their proper treatment all the accomplishments of the physician and surgeon, not less do the former require the qualifications of science, integrity, and experience. If I be right in supposing an analogy between albugo and forms of opacity of the membrana tympani, we have the high authority of Scarpa for persevering in the hope of cure; that author observing, when speaking of this form of opacity of the cornea, that it is generally necessary to persevere at least three or four months before the case can be reckoned incurable. It is not, however, my purpose at present to attempt any general account of the diseases of the ear, but merely to draw attention to the advantages afforded by the employment of the prismatic speculum, for throwing light upon the proper nature and treatment of those affections. For the sake of brevity, I shall comprise several points in one hypothetical case. It is common to find a person complaining of deafness whose ears present the following appearances:—The membrana tympani of one side is found entire, and the meatus free from signs of disease. The opposite ear appears moist with discharge, and a mass of soft granulations is seen to occupy the bottom of the passage. A hasty or inexperienced observer would at once conclude, that the ear first noticed was the sound and serviceable one, and that the latter was the seat of the deafness. But it proves otherwise; and more exact inspection discovers morbid appearances sufficient to afford the basis of a more accurate judgment. The membrane which had been judged healthy is preternaturally dry and tense, or it may be opaque, thickened, lax or inelastic, or, again, of ligamentous or horny rigidity. By a narrower examination of the granular mass in the other ear, a minute opening through some

part of the pulpy heap is discovered, admitting the passage of sound to the interior partially or entirely sound structures, and so to the sensorium. The condition of the two ears here assumed, does not differ more in appearance than in the character of the disease, and the treatment required for each. A bold stimulus might be the advisable medicament to the dull opaque membrane; but the same application to the more delicate state of disease in the other ear, would probably extinguish the hearing, while the *modus operandi* would be involved in greater mystery than before. The case assumed is of common occurrence, and the treatment must often be attended with similar disappointment when sufficient inspection has not been obtained, or the characters of the disease misunderstood.

The more perfect revelation of the diseased states of the ear has been a desideratum up to the present time, and the ingenuity of many eminent members of the profession has been employed to convey light in this direction. These efforts have all been aimed to effect the illumination of the parts by intense light, proceeding from behind, or interposed between the eye and the narrow field of disease sought to be examined; and both of these methods has been found equally unsatisfactory, inasmuch as the shadow of the head intercepts the light proceeding from behind—even the sunlight itself, whilst a light interposed between the eye and the object, dazzles and obstructs all operative procedure. By enlisting the prism as an appendage of the speculum, these disadvantages are entirely obviated. The light being placed on either hand of the observer, is received on a side of the prism, and by internal reflection the direction of the light is conveniently diverted, and poured as in a stream over the edge, and to the bottom, of the conical tube of the speculum, so as clearly to reveal the nature of disease in the parts, and, at the same time, to leave ample space for the passage of all the instruments required in aural surgery. The amount of light thus attainable need have no limit, while the membrana tympani may be fully inspected with the aid only of a cottage candle; and under all disadvantages and dubiety, the eye may be assisted by a pocket magnifying glass. The cases which have recently been submitted to my treatment have, for the most part, been such as have proved incurable in the hands of others; and while the value of the prism will be ultimately and justly determined by the greater number of cures effected through its employment, the profession, I doubt not, will receive with candour and interest the first fruits of observation by this means, such as my opportunities have enabled me to lay before them. It will be understood, that in the cases cited, the prismatic auriscope was always employed in observation; and if no unfamiliar fact is recorded, it is because no novel peculiarity was present. At the same time, whatever appearance was presented was seen with new distinctness, and the indications of treatment were correspondingly distinct.

The examination of the ears will be more or less satisfactory according to different circumstances. If the meatus is contracted or inflamed, or the convolutions of the cartilages rigid with age, or if the linings are lax and falling into folds before the auriscope, or beset with vegetations, the view of the membrana tympani will be unattainable or inexact. Or, if the exterior passage be without such obstruction, a perforation in a suppurating membrana tympani may escape detection, from the aperture being occupied by a globule of pus,—a source of deception almost inevitable, if the Eustachian tube be at the same time impervious, and preventing the forced emission of air through the aperture. In all circumstances where it can be available, the camel-hair brush is the instrument to be employed to cleanse and unveil the real condition of the parts.

As many of the cases which I shall cite have been furnished by my professional brethren, and their authenticity will thus be recognised, I shall think it sufficient, in the communications I may make, to state cases numerically, instead of giving initials and designations.

Case 1. ——, aged 43, the report of whose case, as still under treatment, appeared in the September number of this Journal, and presented in the sequel farther points of interest. For the sake of connection it is necessary to recapitulate the previous narrative. He had suffered from impaired hearing and disease in both ears from boyhood; and as deafness had been prevalent in his family, it is probable there was a morbid delicacy and predisposition affecting the organs in question. Loss of hearing has progressively increased, notwithstanding the employment of constitutional and local treatment directed by judicious members of the profession. All remedies had been discontinued as hopeless for two years back, and hearing was produced only by bawling as to one on the house-top,—the patient erecting the auricle with his hand to catch every vibration of sound. Upon examination with the auriscope, the cuticular linings of the auditory passages were found blanched and thickened as by maceration, and void of sensibility, so as to allow the separation of flocculent layers from the surface. The right ear transmitted no sound of a watch placed in contact with it, and on carrying inspection to the situation of the membrana tympani, the bottom of the passage was found occupied by a spongy organized mass protruding irregularly from the chamber of the tympanum; while, in the left ear, a crescent-formed fragment of the drum only remained, and that having a lardaceous appearance, as if quite disorganized and in progress of decay. Remedies chiefly directed to the amelioration of the general health were directed and continued for a fortnight, at the end of which some mild local treatment was entered upon, and employed for a like period. Interesting changes in the state of the ear were now displayed by the auriscope, and at same time, the patient expressed high satisfaction that he had been able to join in the psalmody of the church, of which he had previously been incapable,—such was the deficiency of hearing. The fungus seen at first examination, had shrunk to a level within the cavity of the tympanum, while in the left ear, the relict of the membrana tympani formerly seen opaque and unorganized, had lost a little of its superficial area, but what remained had a healthy pinky vascularity and transparency like red jelly. Moreover, the white head and shoulder of the malleus were seen *in situ;* and in connection with this important fragment, although its handle stood in bold outline in the dark chamber of the tympanum. The last printed report of the case bears date 12th August, and I saw the patient three times before leaving home for London on the 21st, at which time I left him to prosecute an energetic course of mineral and bitter tonics, consisting of iodide of iron and quinine with liberal regimen, and with directions to desist from the use of local applications, saving emollients; expe-

rience proving to me the importance of retarding action in weak or new structures, in order to give time for their consolidation and permanence. On my return, 13th September, I had the satisfaction to see and hear of his progressive and great improvement. In the left ear, the membrana tympani had not much exceeded its former dimensions, but it had now assumed a more substantial form and texture. In the right ear, the chamber of the tympanum was seen to be still occupied by the same flat dusky growth before mentioned, but which had further receded in the tympanum, as if undergoing removal by absorption, while to my gratification, the rudiments of a new membrana tympani were distinctly visible. In four successive inspections subsequently, I found the reproduction gradually extending its dimensions, and although of preternatural delicacy of texture, like fine lawn, it had on the 7th October attained to a complete perfection of form.

15*th October*. The patient reports that he hears distinctly with his right ear the sound of his watch under his pillow, and which he regards as a very satisfactory test of the serviceableness of the new structure, and other changes in the state of the organ. He also mentions that he attended a public meeting the previous evening, and when he missed hearing an expression addressed to him by a stranger with whom he had been conversing, he mentioned that he was deaf, to which the other replied that he had not perceived it. On examination, the new membrana tympani was seen presenting a substantial semi-opacity, at which I am more pleased than disappointed, as thereby an index is afforded of its sufficient organization to secure its permanence.

21*st October*. He experiences little or no impediment of his business from defective hearing either among his workpeople or customers.

I have not seen him since the above date, but I learn upon enquiry that his improvement continues.

Uncertain although it be, what changes have taken place in the reparation of the middle ear, it is impossible not to found upon such a case the highly important conclusion, that even in circumstances the most adverse and unpromising a great amount of benefit may still be attainable through persevering treatment and exact observation of the effects produced by remedial applications.

Case 2. ——, aged 52, has been deaf for several weeks, which she ascribes to cold in the head. She had at first the usual symptoms of catarrh, with occasional pungent pain in the ears; and although these have been absent for some time, the loss of hearing has increased. On examination of the ears, there appears an abundant accumulation of viscid cerumen, which could not be wholly dislodged by the syringe without improper irritation; the lining of the passage appearing highly vascular and tender to the touch. The sound of a watch was heard only at five inches distant. Local fomentations and oil were directed for two days with purgatives and diaphoretics. At the next examination, the vascular injection of the ears and tenderness were gone, and the remaining collection of wax was readily removed with the effect of extending the range of hearing to 18 inches. On narrow inspection of the meatus, no abnormal appearance remained there to account for the continued imperfection of hearing. The Eustachian tubes, however, remained obstructed, and this condition was also removed by two days farther perseverance in the general treatment, when hearing was found perfect.

Case 3. ——, aged 23, of scrofulous, unhealthy aspect, has been deaf for five or six weeks, supervening on exposure to cold. There were smart transient pains and tension in the ears for a night or two, but which ceased upon the appearance of some discharge, and again repeatedly recurred. Deafness and constant humming and purring noise, are what he now greatly complains of. There is a muco-purulent discharge from both ears. On examination the right meatus appears soaked with imperfect pus, its lining is loose and infiltrated, and a circle of pale granulations is seen surrounding the membrana tympani, which has a slight dimness. The left passage is in a similar villous and secreting state, and the membrana tympani appears also a little dim.—Ordered to apply a blis-

ter to the nape, and a zinc lotion to the ears. After four days the organs presented a nearly healthy appearance, and the hearing was almost perfect. The lotion was directed to be continued, and no more was seen of the case.

It is probable that the disease here was of longer duration than was observed by the patient, and that the cure was neither complete nor permanent. It is no uncommon thing in deteriorated states of the general health, to discover patches of erosion, and deep and extensive ulceration of the mucous membrane of the throat and other cavities, the very existence of which had been unsuspected even though implicating important organs. To this the ear is no exception,—all forms of deafness and disorganization there are placed in the one category of loss of hearing, and are counted as solved only by its restoration. Greater intelligence and vigilance, both on the part of the patient and practitioner, are necessary to greater success in the treatment of all the more important forms of diseases of the ear.

CASE 4. ——, *Sept.* 26.—The right ear has been deaf since an attack of scarlatina two years ago, but the hearing has been farther prejudiced since the use of remedies unskilfully directed. The sound of a watch is heard at five inches distance only. On inspection by the auriscope, the lining of the auditory passage is pale and lax, the membrana tympani has a milky opacity, extending from its margin towards the central most vascular part, where there is a small cluster of vivid granulations resembling a minute wild raspberry. They have a tense irritable appearance, and the character of permanent fungus rather than of true granulation, being without pus or moisture of surface. A mild stimulant, as an expectant application, was employed, and undue excitement was directed to be moderated by fomentation and counter-irritation.

At the 2nd examination, the lining membrane appeared slightly injected, tumefied, and tender, so as to prevent the employment of the speculum. There was, however, no increased tinnitus, deep-seated pain, nor tension, and no discharge. Directed to repeat the emollient fomentation occasionally, and to use a mild oxide of zinc ointment on cotton to protect against atmospheric injury.

3d Examination. Hearing improved, the sound of the watch being heard at eight inches distant. The passage of the ear has in a great measure recovered its tone and compactness; the small fungous growth has shrunk to less dimensions; the condition of the membrana tympani is masqued by a coating of ointment which it is unnecessary to disturb.

4th Examination. Reports that great improvement in hearing is experienced, particularly noticed when last at church. The watch is heard at 12 inches distance. The passage of the ear looks healthy, though still without cerumen. The small fungus has disappeared, and the opacity is considerably diminished; the part being no longer delicate, the ointment was brushed from its surface by means of the hair pencil, moistened with the diluted linimentum saponis, and a zinc lotion was directed.

5th Examination. Hears the watch at 18 inches distance. The membrana tympani presents almost its natural lustre in a minute portion of its central area. Brushed the membrana tympani with a weak iodine lotion, and directed lotio aluminis c. spiritu rosmarini to be applied tepid with a sponge to the whole auricle and neighbourhood twice a-day.

6th. Improvement continues.

7th Examination, *Nov.* 12. Hears the watch equally with both ears at some yards distance,—attendance discontinued.

CASE 5. —— has for several years been deaf of the left ear; the history he gives of which is, that he caught cold while journeying outside the mail in the night, and upon using his handkerchief to his nose, and blowing with violence, he was conscious of a sudden sense of bursting, or explosion, in the ear, attended for a little with alarming noise and confusion of head. On reaching home, considerable pain demanded attention to what had happened, and a dossil of cotton, moistened with laudanum, was introduced into the ear. The effect of this was greatly to aggravate the pain, and was followed by a night of much

restlessness and distress, such as warrants him to caution all against repeating the same application in similar circumstances. From the period of the above occurrence, he has heard very imperfectly with that ear, but a much greater inconvenience is, that it is liable to continually recurring attacks of pain, inflammation, and discharge upon any little exposure to cold or currents of air. When the ear was submitted for my inspection, the membrana tympani was found deficient of one-half of its extent, and the remainder had an irregular, raw, ulcerated edge, while the neighbouring surface had almost a fleshy vascularity. I directed an astringent infusion to be applied with a camel hair brush, and by and bye a zinc solution and ointment, whereby the ulcerated membrane was cicatrised. There has been no subsequent return of discharge, nor inconvenience from cold, and the hearing is considered to be also improved.

Case 6. ——, aged 17, October 22, in a state of imperfect convalescence from fever. He had left his home in Strathspey to follow the harvest-work in the south, and his return had been intercepted by the attack of typhus. Inflammation of both ears had occurred at an early period of the fever, and quickly advanced to suppuration, with great detriment to hearing. Upon examination of his ears, they were found soaked with a highly fœtid discharge, on the removal of which both membranæ tympani were seen partially destroyed. The linings of the meatus and tympanum appeared to have a universally oozing surface, and the Eustachian tubes were impervious, probably from a similarly relaxed state of the mucous membrane. He was greatly dejected in mind, on account of what he imagined his hopeless loss of hearing, and his distance from home and friends. He was also in a very debilitated state. I encouraged him to expect that his hearing would improve with the progress of his convalescence. In little more than a week, the reparative energies of youth, aided by food and flannel, had powerfully manifested themselves. The discharge from the ears was diminished, the hearing was somewhat improved, and he was no longer dispirited. A strong astringent gargle and lotion for the ears were now directed, and after the lapse of three days, the passages of the ears were found to have undergone much improvment. The linings had acquired a measure of tension and tone,—the discharge was viscid, and the membranæ tympani, although imperfect and opaque, admitted of a measure of hearing much less obtuse than their appearance would have led to expect. When I had occasion to repeat expressions loudly to him to be heard, he expressed some disappointment; for the previous night he mentioned that he had the happiness to meet with "a Spey lad;" and while he heard his dialect, his deafness was scarcely perceived by either, exemplifying the power of mental influence and pleasurable excitement upon these organs. The following day, the Stranger's Friend Society provided him with a passage northwards towards his home, and his after progress I have not yet been informed of.

It may be observed, that when inflammation of the ears occurs in the early stage of fever, it is generally destructive in its effects; but when the patient is youthful, and of vigorous constitution, reparation may be both speedy, and beyond expectation complete. The so-called "nervous deafness," which often supervenes on typhus fever, is with much probability to be attributed to the feeble and inharmonious action of the muscular apparatus of the tympanum, exemplified also in the staring undecided gaze, and indistinctness of vision, which convalescents for a time retain.

(To be continued.)

ARTICLE III.—*Case of Aneurism of the Ascending Aorta opening into the Right Auricle:—Fatty Degeneration of the Muscular Substance of the Heart. By* THOMAS BEVILL PEACOCK, M.D. Edin., *formerly Pathologist to the Royal Infirmary, and President of the Royal Medical Society, Edinburgh.*

THOUGH communications between the sacs of aneurisms of the aorta and the right cavities of the heart, have been for some time known occasionally to occur, and the memoir of Mr Thurnam,[1] has rendered pathologists familiar with the general features of these cases, it is conceived that the following instance, presenting, as it does, several points of interest, is worthy of record.

On the 24th of November 1840, I was called to see James Monk, aged 48. I found him in a state of great prostration, the pulse being imperceptible at the wrist, and his extremities cold; he complained of constant vomiting, and pain in the feet and ankles, his face was sallow and puffy, and the abdomen swollen. With these symptoms he had been suddenly seized while engaged in his occupation of a horse-keeper; he was removed to the Chester Infirmary, but though appropriate treatment was had recourse to, he continued to sink, and died about eighteen hours after the commencement of his attack. No history of his previous state of health was obtained. He had continued his occupation regularly till his seizure, and was of very intemperate habits.

The body was examined thirty hours after death.

The *abdominal cavity* contained a large quantity of yellow-coloured serum. The mucous membrane of the *stomach* displayed no unusual vascularity. The valve of the pyloris was so firm and contracted as only to admit the forefinger to be passed through it with force. The cavity of the stomach was larger than ordinary. The mucous membrane of the *small and large intestines* was healthy, there being only slight congestion of the dependant portions of the ileum and of the cœcum. The large intestine was free from fecal matter, and contracted. The *liver* displayed a very marked degree of hepatic venous congestion. The gall-bladder contained dark and viscid bile; but the ducts readily gave passage to this fluid into the duodenum. The *spleen* was healthy. The *kidneys* were lobulated and congested, but not apparently granular.

The *chest* was unusually broad and expanded; both pleural sacs contained serum in considerable quantity. The *lungs* were emphysematous. The *pericardium* was universally adherent to the heart by a thick layer of condensed cellular membrane. The *heart* was of very large size. The right ventricle greatly dilated, and its walls

[1] On Aneurisms, and especially Spontaneous Varicose Aneurisms of the Ascending Aorta and Sinuses of Valsalva.—*Medico-Chir. Trans.*, vol. xxiii. 1840.

thinner than usual, and covered by a thick deposit of fat. The muscular substance had also undergone the fatty degeneration; it was of a pale yellow or clay colour. The auriculo-ventricular and pulmonary apertures and valves were healthy. The cavity of the left auricle retained its usual dimensions, its parietes were somewhat hypertrophied, and the appendage contained a firm decolorized clot. The mitral valve was natural. The left ventricle was greatly dilated and hypertrophied, and the inner layers of its muscular parietes had undergone the fatty degeneration, but the change was less marked than in the walls of the right ventricle. The outer wall measured near the base, five lines in thickness, and at a point midway between the base and apex, four lines; below this the muscular substance became gradually thinner, and was replaced by a layer of fat; at the apex, where the deposit of fat was very copious, the muscular substance was reduced to a mere film. The aortic valves were slightly thickened.

The sinuses of Valsalva were somewhat dilated, more especially the posterior sinus, which formed a slight projection into the cavity of the left auricle. The *ascending aorta* was the seat of a large aneurism. This commenced about a quarter of an inch above the attachment of the right and posterior semi-lunar valves by a tolerably distinctly defined margin, and involved chiefly the anterior and right side of the vessel; below, it pressed upon the base of the right ventricle, and the appendage of the right auricle; and above, it terminated somewhat abruptly an inch and a quarter below the origin of the brachio-cephalic trunk. An oval cavity was thus formed which would contain a duck's egg, having the obtuse extremity below, and the origin of the aorta near the middle of its left side. The inferior portion formed an egg-shaped swelling projecting into the right auricle, immediately below the entrance of the vena cava descendens; and on the left side of this projection, in the appendage of the auricle, there existed two apertures, by which the cavity of the aneurism communicated with that of the auricle. These apertures, each of which was of sufficient size readily to give passage to a large bougie, were situated immediately together, and were surrounded by a belt of small granular concretions of decolorised lymph. In several of the sulci of the auricle, the septum between the aneurismal sac and its cavity was so thin as to be completely translucent. The descending cava, though compressed by the sac of the aneurism, and, as it were, expanded over its right side, was free from obstruction, but its coats were much thickened. At the upper portion of the aneurismal sac the wall was in front so extremely thin, that, had the pericardium not been here firmly adherent and much thickened, it must have given way some time before the actual occurrence of the fatal event. The lining membrane of the artery was continued throughout the aneurismal sac, and numerous atheromatous and

osseous patches were situated beneath the lining membrane of the sac and artery. The sac contained only a thin layer of coagulum resting on its base. The coats of the aorta, though in most places thickened, were in some thinner than usual, and that vessel was throughout the arch much dilated. About an inch and a quarter below the origin of the left subclavian artery, a second aneurismal pouch arose from the convexity of the aorta; this was of sufficient size to contain a chesnut, and its cavity was separated by a distinct margin from that of the aorta. The internal coats of the artery and sac were continuous.

REMARKS.—1. The aneurismal tumour of the ascending aorta in the case just related, was formed, it will be observed, by a dilation of the coats of that vessel, the sac being distinctly separated, above and below, from the cavity of the artery, and lined throughout by its internal tunic. Like the smaller tumour in the descending portion of the arch, it was therefore a true aneurism. Dr Hope states, that "almost all aneurisms of the ascending portion and arch of the aorta are originally of the true species;"[1] and I have little doubt of the general correctness of his assertion. Mr Hodgson, in a case where an aneurism had burst into the posterior mediastinum, found in the aorta three aneurisms in different stages of formation;—one of them was a small hollow, not larger than the half of a pea, a second was of the size of a hazel nut, and the third, that which had burst, was as large as a small melon. On slight maceration, he was able to separate the coats of these tumours, and in the two former, removed all the tunics entire, each layer retaining the form of small cavities; while, in the third, he was only able to trace the internal coats for a short distance into the sac.[2] These observations I have recently had an opportunity of repeating in two cases. In the first, an aneurism about the size of a chesnut arose from the posterior side of the aorta, about an inch and a quarter above the aortic valves; its orifice was small, and the sac was compressed beneath the bifurcation of the bronchi, and had formed a communication with the top of the right bronchus. In this aneurism I was unable to trace the internal coats far into the sac; but in the descending portion of the arch, I found two pouches, each sufficiently large to lodge a split pea, and from these I removed, after maceration, the internal coat entire, and this tunic, as well as the middle and external, retained the forms of the small hollows after its separation. In the second case, a small aneurism arose by a narrow orifice from the upper surface of the right iliac artery, near its commencement, and a second pouch, exhibiting evidently the early stage of a sac like the former, was situated shortly below; from the latter, by slight maceration, the internal coat readily allowed

[1] Diseases of the Heart, &c. 3d Edition, 1839, p. 421.
[2] Diseases of the Arteries and Veins, p. 66.

of being removed, and retained the form of the pouch when separated from the other tunics. In two or three other cases I have dissected aneurismal tumours of considerable size, consisting, like that described in this paper, of expansions of the arterial tunics; and I believe that aneurisms of the aorta, throughout its course, originate, in the largest proportion of cases, in sacculated dilatations of the coats. It rarely occurs, that in the larger tumours, the internal tunics can be traced throughout the sacs.[1]

2. The portion of the ascending aorta above the attachment of the right and posterior semi-lunar valves,—where in this case the aneurism originated,—would appear to be less liable to this affection than that near the attachment of the right and left valves; of ten aneurismal sacs observed by Mr Thurnam in these situations, one only arose from the former, and eight from the latter point.

From Mr Thurnam's researches it also appears, that the cavities of aortic aneurisms more frequently form communications with the right ventricle, than with the right auricle; of the cases which he has referred to, eight are examples of the former, and two only of the latter kind. The greater frequency of communications with the right ventricle is owing to the situation of that cavity,—in close contact with the left and right sinuses of Valsalva, and the points of attachment of the corresponding valves,—exposing it to the pressure of aneurisms in each of these situations; while the auricle is in contact with a much smaller portion of the origin of the aorta. During the time that I conducted the dissections of the Royal Infirmary, a case in which an aneurism of the ascending aorta had opened into the right ventricle, fell under my notice.[2] In this instance, the aneurism arose from the anterior and left side of the aorta, about half an inch above the attachment of the semi-lunar valves. The aperture, the size of half-a-crown, and bounded by firm and projecting edges, opened into a large sac, extending above to the level of the arch, and burrowing below into the base of the right ventricle. The septum between the cavity of the latter and the aneurism, was so thin as to be perfectly diaphanous, and in the centre had given way, leaving an aperture of sufficient size to allow the point of the little finger to be passed through.

3. This case affords us no assistance in what is at present a great desideratum, viz. the physical diagnosis of communications between the aorta and right cavities of the heart. There can be no doubt that the symptoms under which the patient laboured during the short time he was under notice before his death, were

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[1] It is extremely improbable that the external coat of the aorta can alone sustain a column of blood extravasated between it and the middle tunic, as supposed by Scarpa. See experiments illustrative of the mode of formation of dissecting aneurisms, by the author, in the number of the *London and Edinburgh Monthly Journal*, for October 1843.

[2] For full particulars of the symptoms attending this case during life, and the morbid appearances, see a Clinical Lecture by Dr Henderson in the *London and Edinburgh Monthly Journal*, for May 1843.

induced by the sudden formation of the openings from the aneurismal sac into the auricle. The size of these apertures, and the belt of small granular concretions by which each was surrounded, evinced their very recent formation. In the second case also, to which I have referred, the patient, who had long laboured under aneurism, died very suddenly; and it seemed probable, from the appearances observed after death, that the fatal event was occasioned by the giving way of the very thin septum between the cavity of the aneurism and the right ventricle. Of the cases related by Mr Thurnam, one patient died immediately after the formation of the communication between the sac and the cavity of the heart, three others survived from nine to twelve hours, a fifth lived a month, and a sixth eleven weeks; of the five remaining cases, the patients were supposed to have survived from two to ten months.

4. The heart was in this case enveloped in a thick deposit of fat, and the muscular substance of the walls of the ventricles was thinner than usual. The latter had also undergone the fatty degeneration. The accumulation of a thick layer of fat beneath the attached pericardium, has often been observed by anatomists, and has been regarded as giving rise to various symptoms during life.

The more or less complete transformation of the muscular substance of the heart into fat has, indeed, been noticed by most recent writers on the diseases of that organ. Corvisart, though he had not personally observed this change, mentions that it was known to some of his contemporaries. Laennec "had only seen it in a small portion of the heart at one time, and only at the apex." —*Trans.*, p. 584. Andral has observed it under similar circumstances; but Elliotson and Hope have found the transformation affecting nearly the whole of the ventricles. Dr Copland has himself seen this form of disease, and refers to a case published by Dr Simeons of Heidelberg, and quoted in the *Archives Générales de Médecine*, T. 18 for 1828, p. 427. The true fatty degeneration of the muscular fibres of the heart seems, indeed, not to be of unfrequent occurrence, though it is very rare that it attains so advanced a degree as in the instances first quoted. I have myself seen two instances where the change was very marked, and several others in which it existed to a slight extent. The first of these cases was in a female, twenty-nine years of age, who died of pleuropneumonia. The heart weighed 11½ ounces; it was entirely free from fat externally; the walls of the left ventricle were of a pale yellowish brown colour, and were covered with small whitish spots or lines; on section, the layers of the muscular substance of the ventricles towards their interior, and the columnæ carneæ of the left, and musculi pectinati of the right ventricle, had lost all appearance of muscular fibres; they were of a pale clay colour, had a greasy appearance, and resembled pieces of very advanced fatty liver. The liver was fatty, and weighed 54½ ounces; the spleen

was very pale-coloured; and both kidneys were unusually large, pale, and greasy-looking, but without distinct granular deposit. The second instance also occurred in a female thirty years of age. She had suffered during life from dyspnœa, slight jaundice, and dropsical symptoms, and died comatose. A bellows murmur was heard with the first sound, loudest at the aortic orifice. The condition of the heart was similar to that last described; the liver was also fatty; the kidneys granular; and the body displayed an average deposit of fat. The lungs were in both cases free from tubercle.

In each of the above cases, I was able to satisfy myself, that the peculiar change in the appearance of the muscular substance was owing to the large amount of fat which it contained. The knife employed in the section of the most altered portions was left greasy, and oil exuded on their compression. On examination with the microscope, the muscular fibres were found covered with small globules, which on the addition of ether were dissolved, and again left, on its evaporation, in the form of large masses of oil floating in the field of vision. The transverse striæ were imperfectly traceable, or altogether absent, in the demonstrations taken from the most altered portions.

In the case which is the subject of this paper, I was able to repeat these observations, though the preparation had been three years in strong spirits: portions of the inner layers of the walls of the right ventricles when exposed to heat exuded a large quantity of oil, which both greased paper, and burnt. The left ventricle exhibited the change in a less degree.

In the above cases, the liver was found to contain much fat; and the kidneys also, in one of them.

In all the cases which I have seen, the change involved more or less the muscular substance of both ventricles, but more especially the right. It did not, as stated by Laennec, proceed from without, inwards, being always most marked in the fibres of the musculi pectinati and columnæ carneæ, and the inner layers of the ventricles; and the base of the heart was as much affected as the apex. In the case described in the paper, and those related by Cheyne and Adams, there existed a redundant deposit of fat on the surface of the heart; while in the two others referred to, the partial conversion of the muscular fibre into fatty matter was unattended by any deposit of free fat on the surface of the heart. In the two cases related by Mr Smith, the blood, especially of the vena porta, contained free oil; and in one, the liver also was diseased.

2 South Place, Finsbury, London,
October 22, 1844.

ARTICLE IV.—*Case of Traumatic Tetanus, following Injury of the Finger; treated by Amputation of the injured part, the application of Cold to the Spine, and the internal use of the Cannabis Indica. By* JAMES MILLER, ESQ., *Professor of Surgery in the University of Edinburgh.*

"ELIZABETH DONOVAN, aged 7, was admitted into the Royal Infirmary, under Professor Miller, October 18, 1844.

A fortnight previous to admission, she was brought to the Infirmary, in consequence of the wheel of a cart having passed over the middle finger of the right hand. On its ulnar aspect, there was an extensive and ragged wound; and the whole finger was much bruised and swollen.

Simple water dressing was applied. And she came to the hospital almost daily, as an out-patient.

The inflammatory swelling became great and painful; and, after a few days, a very marked tendency to spasmodic flexion of the fingers and wrist was observed. In consequence of this, she was admitted into the house; and a splint was applied lightly, so as at once to secure rest for the injured part, and to maintain a normal position of the limb. Very considerable pain was complained of in the finger; and the system was somewhat disturbed.

19*th*. Continues much in the same condition. The wound is slowly contracting.

23*d*. Has spent a bad night. She was observed by the nurse to undergo a "kind of fit;" becoming rigid in the limbs; having difficulty in opening the mouth, and in swallowing; and complaining of pain in the jaws."

This was reported to me at visit, with a hint, that "lock-jaw" was probably threatened. On reaching the patient, however, I found her seated by the fire-side, happy, and cheerful; with the system little, if at all, excited. The remission had been very complete; the only traces of "the fit" remaining, at that time, being a peculiar expression of the face,—roguish, and not displeasing, such as a child at that age might naturally assume,—and a slight difficulty in opening the mouth. The latter circumstance might have been accounted for satisfactorily enough, by the existence of a glandular swelling at the angle of the jaw.

Seeing the patient apparently so well, I could scarcely believe that an accession of Tetanus was actually in progress; and was inclined rather to suppose, that "the fit" of the previous night had been one of a less formidable nature; dependent, probably, on intestinal irritation, in a patient of great nervous excitability,—as the spasmodic flexion of the fingers had previously testified. I accordingly ordered a smart purge of calomel and jalap; expecting to unload the bowels of noxious stuff,—perhaps of worms—and so to relieve the symptoms. Lest, however, the case should prove one of Tetanus, I thought it prudent at the same time to order the Cannabis Indica, in moderate doses, to be commenced immediately after evacuation of the bowels; a remedy suited to the mitigation of spasm, whether of a tetanic nature or not.

"24*th*. The purge acted freely; and much feculent matter of a bad kind came away. Ten drops of the Tinctura Cannabis Indicæ have been taken every four

hours. She has slept tolerably well during the night; but the general muscular rigidity is increased; as also the difficulty in opening the mouth, and in swallowing."

At visit, I had no hesitation in declaring the case to be Tetanus. The peculiar risus had begun; the jaws were clenched; the masseters and temporals were tense and hard, and the seat of much pain; the limbs, especially the upper, were becoming rigid; the abdominal parietes were hard; the least exertion, such as endeavouring to open the mouth, and show the tongue, induced aggravation, with marked opisthotonos; and then, too, pain was complained of, not only in the jaws, but in the back.

The finger had never promised well for satisfactory recovery; and I had no doubt as to the propriety of its immediate sacrifice; being well aware, that although in it resided the exciting cause of the formidable train of symptoms fast setting in, yet that removal of this could be expected to prove beneficial, only at a very early period of the case, ere the spinal cord had been all but irretrievably involved. Amputation was accordingly performed, with as little delay as possible, at the metatarso-digital articulation. Little pain was complained of; and blood flowed but sparingly. I abstained from deligation of any vessels; partly, because a moderate loss of blood might not be without its use, at this the commencement of the treatment; but chiefly, because I was anxious, by avoidance of the use of ligature, to leave the wound in as favourable a state as possible,—free from all source of further irritation. For a like reason, no stitches were employed; sufficient approximation being effected by tying the adjoining fingers together by a slip of bandage.

Water dressing was applied to the wound. An enema, containing assafœtida and turpentine, was ordered to be given immediately; and the dose of the cannabis was increased to 20 drops every two hours. I was anxious to apply ice to the spine; but found that none could then be procured,—it being Fast-day. Cold cloths were placed over the nape of the neck, and frequently renewed.

I saw her at 8 P.M.; she had been asleep; but the muscular rigidity was undiminished; and great pain was complained of in the jaws and back. I ordered the dose of the cannabis to be increased to 30 drops every hour, watching the effect; and the wound to be dressed with lint dipped in a strong aqueous solution of opium.

"25*th*. She fell asleep, after four or five doses of the tincture, and has slept a good deal during the night. The doses have been regularly taken, except during the time of sleep. At 10 A.M., a very marked exacerbation occurred; the most prominent symptoms being, complete closure of the jaws, retraction of the mouth, distortion of the eyes, clenching of the hands, and opisthotonos. She now complains chiefly of severe pain in the region of the temporal and masseter muscles, and along the back. The bowels have moved sluggishly; the stools are fœtid and dark. The turpentine enema, with assafœtida, to be repeated; and cold to be applied to the spine, especially at its upper part, by means of bladders filled with ice.

8 P.M. The ice has been applied to the spine since visit to-day, the blad-

ders being changed every half hour. There has been no return of the active muscular contractions, but the rigidity still remains. Continue the cold to the upper part of the spine; and also the Indian Hemp—30 drops, every half hour. Continue also the water dressing, medicated as before.

26*th*. 2 A.M. She continued since last report in a drowsy condition, and without any exacerbation of the Tetanus. She has just had a more severe attack, however, than that described as having occurred yesterday morning.

6 A.M. Has continued very restless since the above attack. She has had frequent, but unavailing desire to go to stool, and to void her urine. These symptoms were relieved by repetition of the enema, as formerly given.

12 noon. (Hour of public visit.) She appears now to have improved a little. Continue the cold to the spine, and let her have the 30 drops of the Cannabis Indica only every hour.

8 P.M. Since visit, she has had three distinct exacerbations,—one very severe. The pulse has not been sensibly depressed by the cold application to the spine; and is of almost normal frequency.—Continue.

27*th*. Has slept a good deal during the night; has had only one exacerbation. Continue the same treatment.

28*th*. She has passed a good night, having had only one attack of the aggravated spasms."

By this time, serious doubts had occurred to me as to the genuineness of the tincture of hemp in use; and these were not dispelled by reference to the apothecary, who stated, that though the drug was the best he could procure, and the tincture made according to the directions of Dr O'Shaughnessy,—℥j being equivalent to 3 grains of the extract,—yet he could not vouch for its efficiency. The progress of amendment was as yet slow; and notwithstanding large doses had been given, with sustained frequency, yet but moderate narcotism had ever been induced. I thought it well, therefore, for a time to discontinue the hemp, and to supply its place by aconite; the more especially, as an undoubted tincture of the latter was placed at my disposal, by my late pupil Dr Fleming, who has paid much attention, not fruitlessly, to the actions of that drug. Accordingly, the latter part of the report for the 28th, is found to be as follows:—"Let her have 2 drops of the strong tincture of aconite every two hours, watching the effect. Continue the cold to the back. Discontinue the Indian hemp."

Meanwhile, *one* dose (30 drops) of the Indian hemp, was given to a middle-aged adult in the adjoining ward, an inmate on account of necrosis of the fibula. The medicine was given at bed-time; and he speedily fell into a sort of trance, during part of which he fancied himself transported, not inappropriately, to Constantinople. In the morning, he felt ill and confused, and was not a little indignant, conceiving that he had been in some manner *poisoned* by the draught.

On the 29th, the report of the girl is as follows:—She has had the aconite as ordered, except during the night. The spasmodic attacks have become both more frequent and more severe. To give up the aconite, and return to the cannabis Indica—taking 30 drops every hour."

I did not hesitate to resume the hemp, being now satisfied of its

efficiency. The experiment on the male patient, and the circumstance of its temporary disuse in the girl being followed by decided relapse, seemed very conclusive upon that point.

"8 P.M. She has had several exacerbations of the trismus and opisthotonos. An attempt to protrude the tongue invariably induces increase of the former; and during one of these attacks to-day, the tongue was severely injured by the teeth.

30*th*. She has passed a tolerably easy night. At 10 A.M., she had two exacerbations. She is at present in a drowsy condition. Continue the same treatment.

31*st*. Has slept well during the night, without any exacerbation. The rigidity of the back is diminished. She has a good appetite, and can now imbibe and swallow the beef-tea without difficulty."

Aware that in tetanus the fatal result is often attributable as much to the exhaustion from inanition, as to the actual progress of the disease, I ordered from the first, strong beef-tea to be given to the patient, in small quantities, but at short intervals, there never having been any characteristic in the pulse, or other indication, unfavourable to the administration of such support.

"*November* 1. She has again passed a good night. To-day she looks much better; she has had no spasms of a severe nature; she can now talk, and opens her eyes and mouth with comparative ease.

2*d*. She slept little or none last night, but had only one slight exacerbation, which was induced by attempted protrusion of the tongue. The wound is almost healed. Continue the same treatment.

3*d*. No report.

4*th*. She is improving. The rigidity of the back is nearly gone; she can open her mouth pretty well, but still complains of severe pain in her jaws. A copious moisture is on the skin. Discontinue the cold to the spine. Continue the cannabis.

8 P.M. Has had two severe aggravations since visit.

5*th*. Has slept well during the night, having had no exacerbations. Says that she is easier to-day. Continue the same treatment.

6*th*. Again slept well. No return of the spasms.

7*th*. Had an exacerbation just before visit; apparently induced by the influx of the pupils. To have the dose of the cannabis indica reduced to 30 drops every second hour.

8*th*. Continues improving. Pulse 80. Continue the same treatment.

12*th*. She continues much in the same condition since last report; gradually improving. She has had no return of the trismus or opisthotonos. Occasionally there is a spasmodic grin on the face, induced when she attempts to smile; also an attempt to use the other muscles, (as those of the jaw, back, and forearm,) which were formerly affected, brings on an involuntary contraction of them. She has now no pain either in the back, or sides of the head. The tongue is clean but dry, as far as can be observed, she being able to protrude it only to about half the usual extent. Bowels open; stools very dark. She now takes solid nourishment in addition to the beef-tea; her appetite is excellent. Continue the cannabis.

14*th*. Continues improving. She has no exacerbations of any of the tetanic symptoms. The abdominal muscles are exceedingly hard and rigid, though not undergoing periodic spasms. The hemp has been given regularly, except to-day, when it was inadvertently omitted by the nurse. Let it be continued.

17*th*. The trismus may now be said to be gone, as she can separate the teeth to a considerable extent, and protrude the tongue without, as formerly, inducing spasm of the muscles which close the jaws. Tongue tolerably clean; bowels open; stools still very dark coloured. She has an excellent appetite, and can masticate freely. To have 30 drops of the cannabis indica only every third

hour. R. *Pulveris rhei gr. iv; pulveris scammoniae gr. ij. Fiat. pulv.* One morning and evening.

19*th*. (At 8 P.M., and when sleeping). Pulse 82, soft, and full. Respirations 21 per minute and *thoracic*, in consequence of the stiffness of the abdominal muscles. She sleeps very calmly, and with the natural expression of the countenance.

21*st*. Improving rapidly. Friction to be applied over the abdomen, as the hardness still continues.

22*d*. To-day she was sitting up by the fire, and dressed. All tendency to spasm seems gone; it cannot be induced even by the free motion of the parts formerly affected. She can stand and walk when supported; but cannot maintain the erect posture without assistance. Pulse small and quick. She has taken the powders ordered on the 17th, regularly; the bowels are freely open; and the dejections are improved in character. Continue the hemp every sixth hour; also the powders, and the friction to the abdomen.

25*th*. Continues quite well; gaining strength; no spasms; rigidity of abdominal muscles passing off. Discontinue all medicine.

1*st Dec*. The girl is still in hospital; but is no longer a *patient*."

Perhaps the first questions which present themselves, in regard to the foregoing case, are—was this an example of *acute* tetanus? or was it, from the beginning, of the *chronic* character? According to my own conviction, I have no hesitation in answering the former question affirmatively; and the latter, by a negative. And this I do on the following grounds:—1st, The case was traumatic: the affection, following a wound, is usually acute. And, in this instance, the accession was at the usual time, and in the usual way. 2d, The symptoms, *at first severe*, gradually, yet very perceptibly, gave way before the treatment employed. The trismus, opisthotonos, and rigidity of the upper extremities, as well as of the abdominal muscles, were at first great, and underwent frequent and cruel exacerbation; and these aggravations were induced by the slightest exciting cause. Rigidity gradually relaxed; and the exacerbations became less painful, less frequent, and less easily induced. 3d, During a temporary interruption of the treatment, the symptoms threatened to return to their original severity; and again yielded to the resumption of the appropriate remedial means.

Then, as to the treatment. For some time I have been satisfied, that in the treatment of traumatic tetanus, the most likely means of relief are to be found,—1st, In early amputation of the injured part, or isolation of it from the general nervous system by suitable incision on the cardiac aspect; 2d, In effectual and early evacuation of the bowels, and maintenance of free movement in them; 3d, In maintaining a sedative effect on the nervous centre implicated in the disease, by cold applied to the spine; 4th, In the continued use of some one remedy calculated to allay muscular spasm—perhaps aconite, Indian hemp, or tobacco; 5th, In careful administration of nourishment, so as to husband the strength as much as possible; 6th, In maintaining quietude, and avoiding all excitement likely to induce aggravation of the spasm.

1. As already stated, there could be no doubt as to the propriety of amputating the offending part in this case; and the operation was accordingly performed, as soon as the tetanic symptoms were fairly declared. The comparative absence of pain and bleeding, during the incisions, was characteristic of the disease.

The nerves of the removed finger were examined by Mr John Goodsir, and found imbedded in dense inflammatory exudation—themselves expanded in bulk, and presenting the appearance of considerably increased vascularity.

Were a similar case of injury to present itself, with like tendency to spasmodic flexion of the parts implicated, I should be inclined to regard that symptom as ominously premonitory, and should feel called upon, by early amputation, to sacrifice the part, even though it might otherwise afford good prospect of its own recovery.

2. The first prescription was a full dose of calomel and jalap, while the power of swallowing was yet comparatively free. It answered well, bringing away much fœtid and dark-coloured matter from the bowels, as usually happens in such cases. Sufficient action was afterwards maintained by enemata, containing turpentine and tincture of assafœtida.

During convalescence, a marked perversion of the intestinal secretions persisted, and was got rid of only by a corresponding continuance in the use of alterative aperients.

3. Since the perusal of a case of hydrophobia, treated by Dr Todd, of King's College, London, and published in the *Lancet*, No. 960, p. 583, I have felt very hopeful of ice applied to the spine, as a remedial agent, not only in that disease, but more especially in tetanus. And I was determined to make trial of it on the first opportunity. Its action is obviously sedative on the nervous system; powerfully and directly so. So soon as circumstances permitted, it was had recourse to in this case, and was maintained in constant, or almost constant operation for ten days; the bags of ice being laid along the whole spine, but with the chief effect directed on the upper part. Forewarned by the circumstances of Dr Todd's case, I was prepared to use this remedy with much caution, aware that the sedative power might prove excessive, and might demand not only considerable intermission of the application, but a cotemporaneous use of general support, and perhaps of stimuli. I was surprised to find, however, that no occasion for either presented itself. The pulse kept low, certainly, and of but sparing strength, but not too much so. And the only complaint made of the application, by the patient, was the attributing to it the severe pain felt in the back, which was caused doubtless by the opisthotonos. When the symptoms had plainly begun to yield, the ice was discontinued; particularly as, about that time, tendency to free perspiration began to manifest itself.

Very shortly after discontinuance of the cold, two marked exacerbations occurred—at a time when these had greatly abated;

but as there was no recurrence, I did not think it necessary to resume the application.

4. Of the three anti-spasmodics, formerly enumerated, I was afraid of the tobacco, in so young a patient, having both seen and heard of its unmanageable action. Few will deny, that, with every precaution in its use, it has again and again seemed not remotely connected with the fatal issue; more especially in urgent cases of hernia. Of the aconite I had no experience, as an opponent of spasm. Of the cannabis I had; having used it in private practice. Besides, the report of Dr O'Shaughnessy's success[1] with this remedy, in at least mitigating the sufferings in tetanus, naturally leads to a prepossession in its favour, in an unprejudiced mind. I resolved to give it a fair trial. It was begun in a very moderate dose, which was gradually increased, until about three grains of the resinous extract were taken every half-hour—a full dose for an adult, in ordinary circumstances, without repetition. A few doses usually induced sleep, with marked mitigation of the spasm; and on the patient's emerging from the state of narcotism, the remedy was resumed, and steadily continued until a similar result was obtained. The period of narcotism, and consequent intermission of the medicine, did not usually exceed two or three hours. The sleep was deep and unbroken, and seemed to be refreshing. It certainly was followed by no headach, or other apparent inconvenience. The eyelids were seldom, if ever, shut, as in ordinary sleep; but remained half open, disclosing the eyes, dull and upturned, and giving to the countenance a very peculiar expression. While the exhibition of the drug was at its maximum, great irritability and peevishness of temper was shown by the patient, during her waking moments; but it were, probably, unfair to attribute this to the medicine.

As the symptoms began to recede, the cannabis was proportionally diminished in dose. Ultimately, it was discontinued altogether, while yet a hardness of the abdominal muscles remained; it seeming, then, to meet with comparatively little tolerance in the system, and to induce a quick and irritable state of the circulation. Throughout the whole period of its use, its effect on the appetite was most obvious; but greatest, as was to be expected, during convalescence. The craving for food, of all kinds, was stated to be, at times, absolutely voracious.

In this case the *tolerance* of the cannabis, engendered by the tetanus, must be apparent to every one. A slim girl, 7 years of age, took every half hour—and sometimes for many hours in succession—a dose of the hemp sufficient to throw a healthy adult into strong narcotism. Also, the unfavourable effects which commonly follow (*vide* Dr Lawrie, in this Journal, Nov. 1844, p. 939,) experiments with it, on ordinary patients, whose ailments (if any) do not

[1] British and Foreign Medical Review, July 1840, 225.

require the remedy—as headach, delirium, visions, vertigo, vomiting, palpitations, general feelings of great discomfort, &c.—seem to have been wholly absent in this case, where nature *demanded* the use of the medicine.

The Indian Hemp I believe to be comparatively valueless, as an anodyne, as well as a hypnotic, *in ordinary circumstances*; and as such, I would not think of administering it. Its virtue seems to consist in a power of controlling inordinate muscular spasm; and the result of this case has certainly tended to confirm that opinion.

I shall not attempt to separate the various remedial agents employed; apportioning to each their share in the fortunate issue. I consider that the early amputation, and subsequent gentle treatment of the wound, may have done some good. I have no doubt that very great benefit followed on the due evacuation of the bowels. The cold to the spine may have been beneficially co-operating, perhaps in no inconsiderable degree. Yet, I am inclined to ascribe the greatest portion of the benefit to that remedy of which the system proved so remarkably tolerant—the cannabis Indica.

5. The fifth indication of cure was never lost sight of. From the first, very strong beef-tea was ordered to be always in readiness, and to be frequently administered. As the trismus yielded, and the power of swallowing was regained, ordinary food was offered in addition, and usually was taken with greediness.

6. In the open ward of a public hospital, it is not easy to obtain quietude for the patient, and avoidance of excitement to spasmodic aggravation. I have no doubt that, latterly, many of the aggravations were attributable to the circumstance of this indication being necessarily so imperfectly fulfilled.

In conclusion, I would beg to state, that I have no wish to arrogate for the cannabis more virtue than what may seem its just due. The case *may* have been of a chronic character throughout, though, in my humble apprehension, it is very far from being apparent that such was its nature.

At all events, by this case, evidence as to the action of the cannabis Indica seems to be borne to the following effect;—

1st, It has the power—probably not slight—of controlling inordinate muscular spasm.

2d, In tetanus there is a marked tolerance of the remedy; both as regards the safe exhibition of large doses, in frequent repetition, and the absence of such unpleasant consequences as the usual dose, in ordinary cases, is apt to induce.

3d, With its anti-spasmodic virtue, *in appropriate cases*, it probably conjoins hypnotic and anodyne properties, though in a minor degree.

4th, It has the effect of remarkably increasing the appetite; and digestion does not seem to be impaired. The dejections, though dark and offensive, contained no unchanged ingesta.

5th, It does not induce constipation.

6th, On recedence of the tetanic symptoms, the dose of the medicine should proportionally decrease. The tolerance is passing off, and if the original dose be continued, some of the untoward effects are not unlikely to occur.

ARTICLE V.—*Cases in Surgery from the practice of* DR HANDYSIDE, F.R.S.E., *lately Senior Ordinary Surgeon, now one of the Consulting Surgeons to the Royal Infirmary of Edinburgh. Reported by* JOHN STRUTHERS, Esq., *House-Surgeon in the Royal Infirmary.*

(Continued from last number.)

II.—SPASMODIC AFFECTIONS OF THE LARYNX.

CASE 1. *Bronchocele giving rise to Spasmodic Dyspnœa—Tracheotomy—Recovery.*—Jaret Dixon, aged 18, was admitted into the Royal Infirmary, under Dr Handyside, on April 16, 1844, with a large Bronchocele.

On admission, both lobes, as well as the isthmus of the thyroid body, were much enlarged. The swelling was soft and yielding, and of a pyriform shape; the base extended downwards to the clavicles, filling up the jugular fossa, and the apex reached upwards to above the thyroid cartilage. Pulsation was communicated to the tumour, on each side, from the impulse of the carotid arteries, over which it lay, and in addition a gentle pulsatory thrill was perceptible in the tumour itself. The patient's neck appeared to be peculiarly long, and his tone of voice was higher and more shrill than natural.

Previous History.—Until two years ago, he states, that he was free from any swelling of the neck. At that time, however, being then 16 years of age, he began to work as a farm servant, and simultaneously with this, the swelling arose. It has gradually increased ever since, and of late has afforded him considerable uneasiness. He is a native of Carlisle, and states that he has been employed on a low marshy farm.

In all other respects his health was good when he came to the Infirmary, and he expressed extreme anxiety to get rid of the disease.—*He was then ordered to take ten drops of the tincture of iodine internally, three times a-day: and an ointment consisting of hydriodate of potass and camphor, of each ʒss, and of the unguentum hydrargyri, and the unguentum simplicis, of each ℥ss, was ordered to be applied twice a-day over the tumour.*

May 9. Since last report, the above treatment has been conti-

nued. To-day, for the first time, there is considerable irritation of the integuments over the tumour, which is found by admeasurement to have rather increased in size. His system appears now to be affected by the mercury, which has been used externally only, and without much friction. The gums are tender, there is increased salivary flow, and the salivary glands are enlarged and painful. The bowels are open, the tongue is red, the skin hot and dry, the pulse is small, and he is in an anxious and excited condition. The internal use of the iodine, and the application of the ointment to be discontinued. Let him take night and morning the following medicine:—*R. Pulveris Jacobi veri gr. iss.; pulveris Doveri gr. iij. Mis. Fiat pulvis.*

7 P.M. He has just had a severe and sudden attack of dyspnœa, which lasted some time. From this he was much relieved by his assuming the semi-erect posture, and by the inhalation of steam.

9 P.M. He has just had another attack of dyspnœa, but of a more severe and lasting nature. He complained of pain, and of a sense of constriction of the glottis. The epiglottis was felt to be erect and somewhat tumid, and he expectorated what was said to resemble thickened mucus. The attack of dyspnœa had been so severe, that it was deemed advisable by the house-surgeon, (Mr J. W. Reid,) to propose tracheotomy, but to this the patient would not submit, as the urgency of the symptoms had at the time decreased.

11*th May*, 4 A.M. During the night he has had several severe attacks of dyspnœa, the last of which was so severe and protracted, that he is now glad to submit to the operation of tracheotomy. It was accordingly performed by the house-surgeon in the following manner:—An incision of about two inches in length was made in the usual situation. The enlarged isthmus of the thyroid body was then felt, and avoided; and, on deepening the incision, the trachea was found to have been pushed deeply towards the left side, by a portion of the right lobe of the gland, which at the same time overlapped and covered it. An attempt was now made to raise this portion of the tumour from off the trachea, but this was found to be impossible, from the extent and adhesions of the tumour; an incision was accordingly made through it to reach the trachea, into which a sufficient opening was then made. On the tube being inserted, the patient felt relieved, though at first much cough was excited by the trickling of blood into the trachea and along the tube, which was much too short, although the longest in the house.

The hemorrhage was very profuse, though principally venous in its character. It however continued, notwithstanding the methodical application of pressure, for nearly two hours,—when Dr Handyside was sent for. It was then entirely arrested by increased pressure.

The quantity of blood lost was supposed to be about a pound, but from its having flowed on the bed-clothes, the exact amount could not be ascertained.

The epiglottis and glottis were at this time felt by Dr Handyside, and there was no œdema.—*The wound was covered over with a light piece of linen gauze; and* 20 *drops of the solution of muriate of morphia were administered.*

At 10 A.M., he breathed easily, and entirely by the mouth and nares,—air passing through the tube only when a forced expiration was made. He had no dyspnœa when the mouth of the tube was closed by the finger. He still complains of pain in the region of the salivary glands and mouth.

At noon. The tube was removed by Dr Handyside, without the slightest recurrence of dyspnœa.

There has been likewise no return of the hemorrhage.

Lint dipped in cold water was applied to the wound, and covered over with oiled silk.

He spoke at this time not in a whisper, but with a pretty full and strong voice.

8 P.M. He continues to breathe easily by the mouth and nares, and there has been no return of the dyspnœa, or of the hemorrhage. Pulse 140, soft, and small. *Bowels opened by an enema.—To have a draught, consisting of* ℥ss *of the tinctura hyoscyami, which is to be repeated if necessary.*

11*th May.* He continues to breathe naturally, and has had no recurrence of the dyspnœa. The wound has assumed a glazed appearance from the effusion of lymph, and there has been no recurrence of the hemorrhage.—*To have the following mixture. R. Spiritis ætheris nitrosi.* ℥ss*; aquæ acetatis ammoniæ* ℥j*; Misce.—of which he is to take a teaspoonful every hour in a little water.*

12*th.* The respirations are easy and natural; tongue dry and brown; bowels open; the pulse remains as before, and the mouth and fauces are red and tender.—*Continue the same care and treatment, and let him have in addition a gargle.*

13*th.* To-day he has the usual symptoms of mild bronchitis.

The air has had ingress by the wound, only when the dressings were being changed, and the wound has been kept carefully from exposure to the air, by a napkin applied round the neck. The ward also has been kept at as equable a temperature as possible.—*To be cupped between the shoulders to six ounces; and a blister* 6 *inches by* 4 *to be applied to the left hypochondrium, where he complains chiefly of pain.*

14*th.* He refused yesterday to be cupped; but is to-day much relieved, from the application of the blister.

He now expectorates thick mucus, both by the mouth, and by the wound in the neck.

7*th. Another blister to be applied on the same part.*

The wound is granulating well:—the discharge from it is healthy.

20*th.* The bronchitic symptoms are entirely gone.

The wound does not now communicate with the trachea, and is cicatrizing rapidly from within outwards.

He has had no return of the dyspnœa.

The tumour is evidently diminishing in size.

June 1. The wound is now all but cicatrized, there remaining only a small granulating fissure.

The Bronchocele is now so much diminished in size, that the line and form of the sterno-mastoid muscles, and of the trachea, are visible, and the usual depression, constituting the jugular fossa, exists. *Discharged—cured.*

Case 2. *Spasmodic Dyspnœa from the Introduction of Sand into the Pharynx and Larynx:—Tracheotomy:—Recovery.*—[1] Margaret Campbell, aged 17, a servant, was admitted into the Royal Infirmary, under Dr Handyside, near midnight, on June 4, 1844.

On admission, she was suffering from severe and continued dyspnœa, which underwent frequent exacerbations.

It was stated by the medical gentlemen who accompanied the patient to the hospital, that, about an hour and a-half previous to the time of her arrival at the hospital, a handful of sand was thrown into her mouth by a young boy, while she was speaking to him. Some of the sand accordingly entered the pharynx and larynx; and soon afterwards, she became suddenly affected with dyspnœa and violent cough. Since then, she had had continued dyspnœa, with frequent exacerbations; and the latter are becoming each time more severe.

As the patient was now almost in a state of suffocation, and no adequate obstruction was found by the finger in the mouth or about the glottis, the house-surgeon, (Dr Fleming,) had immediate recourse to tracheotomy. No unlooked-for difficulties occurred during the operation,—a few particles of sand were discharged through the wound, before the tube was introduced,—and immediately thereafter the patient felt greatly relieved.

June 5, 9 A.M. She has passed a good night, having slept well. —*An ounce of the following mixture was ordered to be taken every third hour:*—R. *Sol. mur. morph.* ℥ss; *vini antimonii* ℥ss; *misturæ camphoræ* ℥iv. *Misce.*

At noon. She continues to breathe partially by the mouth and nares, but chiefly through the tube. When the latter is closed by the finger, there is considerable dyspnœa. She expectorates freely by the tube, which is regularly emptied of the mucus, that would otherwise accumulate in it. Pulse rather quick, but otherwise natural.—*To have the above mixture every second hour.*

4 P.M. She complains of pain, of an inflammatory character, in the larynx.—*Twelve leeches to be applied over the larynx.*

June 6, 10 A.M. She has passed a restless night. The symptoms of acute laryngitis became more marked this morning, there being

[1] In the intimation given in the last number of this Journal, that the following case would appear, it was erroneously entitled, a case of "Laryngismus Stridulus," &c., in place of "Spasmodic Dyspnœa."

acute pain in the larynx, with the usual signs of inflammatory fever.—*She was accordingly bled from the arm to* 24 *ounces.*

At noon. The pulse has become more frequent, but is now small and compressible.—*The tube has now been removed;* and she breathes easily by the mouth and nares. There is no œdema of the glottis. —*She was ordered to take one of the following powders, every* 6*th hour.*—R. *Calomelanos, pulv. Jacobi veri, āā gr. iij. Misce. Fiat pulvis.* —*The mixture ordered yesterday was intermitted.*

7*th.* She breathes easily by the mouth.—*Continue the powders.*

8*th.* Pulse 112, small, and weak. Perspiration profuse.

The mouth has now become affected by the mercury.

The wound is granulating well, under the tepid water dressing.

She still complains of pain in the larynx.—*Twelve leeches to be applied over the larynx; and the powders to be intermitted.*

12*th.* The pain in the larynx is now gone, but there is superficial pain and swelling in the hyoid and submental regions.

She has occasional cough, and still expectorates a little mucus by the natural passage.

The wound is healing rapidly.—*Continue the water dressing; and let a poultice be applied below the chin, and rami of the lower jaw.*

July 1. Since last report the patient has progressed favourably, as far as the larynx and wound are concerned. A diffuse abscess which formed superficially in the sub-mental region, has been evacuated by the knife, and the opening is now nearly closed. The wound from the operation is now also nearly closed, and there has existed for the last eight days no direct communication between the trachea and the surface. The patient's voice remains husky. She is now taking wine, and nourishing food.

August 7. The patient, though dismissed only to-day, has been considered as cured for some weeks, as she has remained under medical treatment in the hospital, on account of a rheumatic affection of the articulations of both the upper and lower extremities, accompanied by the usual debility. Her health is now restored; and her voice is natural. *Discharged—cured.*

REMARKS.—These cases present many points of interest to the pathologist, and of practical importance to the surgeon.

In regard to the *first* case, there can be little doubt that the dyspnœa arose from a spasmodic affection of the muscles of the glottis, and not from change of structure in the lining membrane of the larynx.

The occurrence of tumours in the neck giving rise to dyspnœa, in various ways, so as to have demanded the performance of tracheotomy, is by no means rare; but in this case, the tumour was of such a nature, as to render the treatment complicated and difficult, and the ultimate result of it doubtful.

The Bronchocele was simple in its nature, and had nothing peculiar either in its history or disposition, except in its having en-

croached more on the trachea than might have been expected from its outward appearance.

The treatment adopted for the removal of the thyroid enlargement, was that which is found to be most efficacious when the tumour is of a simple nature, namely, the internal administration of iodine, with the external and topical application of the hydriodate of potass and mercurial ointments, with friction. The efficacy of this treatment was not, however, in this case, fairly tested, as it was not continued after the operation was performed.

On the day on which the dyspnœa occurred, the patient was found to be in an extremely excited and uneasy condition, resulting from the action of the mercury, which had affected the system solely by its external application; and this condition would predispose strongly to the occurrence of the spasmodic affection of the muscles of the larynx, which was excited by the irritation of, or recent and moderate pressure on, the recurrent or motor laryngeal nerves, by the still increasing Bronchocele.[1]

That the dyspnœa arose from a spasmodic closure of the rima glottidis, and not merely from an inflammatory affection, is evident from the fact, that the dyspnœa was sudden and intermittent, having occurred without any previous affection of the larynx, or alteration of the voice, and also because there was no dyspnœa in the intervals between the fits; and farther, likewise, by the fact, that there was no affection of the voice, such as occurs in all inflammatory affections of the larynx, whether acute or chronic.

This consideration, indeed, is one of the chief points of interest in the case, from its showing how a Bronchocele may occasion dyspnœa to such an extent as to require the performance of tracheotomy, under circumstances too, where it has never, I believe, been hitherto performed.

The operation of tracheotomy in this case was in itself both difficult and uncertain, but no other alternative was left, except that of allowing, as must otherwise be done, the patient to die from asphyxia; and consequently, the operation was not only warrantable but demanded.

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[1] The recurrent or motor nerves of the larynx, it will be remembered, lie immediately behind, and by the side of the trachea, at its upper part; and they would necessarily suffer pressure from the increase of the tumour, either directly, or through the intervention of the trachea; and that considerable pressure had been exerted on the latter, is evident, from its having been found forcibly displaced to one side, by that part of the tumour which embraced it so closely. The first effect of this pressure would be to irritate or stimulate the nerves, and thus to cause the spasmodic contraction of the muscles of the glottis, to all of which this nerve is distributed; from this, closure of the rima glottidis would result, giving rise to the croupy or crowing inspiration, with the difficult and prolonged expiration; but after long-continued or severe pressure, the opposite condition, or paralysis of these muscles would ensue, giving rise to sudden asphyxia, from mechanical closure of the rima glottidis, unless only one of the recurrent nerves was affected, when the closure would be less complete.

In the case, however, of the patient Dixon, the dyspnœa evidently arose from spasm, and not from paralysis, of the muscles of the glottis.

The division of a portion of the Bronchocele, and the consequent profuse hemorrhage, were unavoidable, but at the same time, not necessarily attended by much danger, as pressure will be found in such circumstances, a sufficient hemostatic, when it is firmly and methodically applied. The hemorrhage, however, in this case was rather salutary in its effects; as to it must be attributed the immediate, as well as the subsequent diminution in the size of the tumour, and the consequent removal or diminution of the pressure on the recurrent nerves, or on the trachea itself, which had given rise to the dyspnœa. The chief danger to be feared from the hemorrhage in this case, was the entrance of blood into the trachea, and thence into the bronchi, as the depth of the former from the surface rendered the tube, which was the longest in common use, almost inefficient,—thus illustrating the great importance of having a tube of sufficient length for such cases; as well as for others, where the parts over the trachea have become infiltrated and vascular.

It is worthy of remark, that the tube was removed next day at visit, from there having been no return of the dyspnœa, although the orifice of the tube had been intentionally occluded for some hours previously to its being removed. Neither was there any recurrence of the hemorrhage, an event which would also have contra-indicated the removal of the tube at that early period, but the surface of the wound became rapidly covered with plastic lymph, after which hemorrhage was no longer to be feared.

It is interesting, also, to observe the remarkable diminution of the Bronchocele which occurred in this case. This was no doubt owing, in a great measure, to the extensive local bleeding which followed the operation, and to the subsequent contraction from the cicatrization of the wound; though it may also have been due to the previous treatment, and to the change of locality which the patient had made.

This case then shows that the pressure exerted by a Bronchocele may not only be sufficient to cause so much dyspnœa as to require tracheotomy for its relief, but that the operation may be performed in these circumstances with success;—and the latter fact also points at the propriety of having recourse to this operation in those cases—not uncommon in those districts where the Bronchocele prevails—where the patient has begun to suffer severely from dyspnœa, as well as from the consequent affection of the lungs and heart,—and where either death has been allowed to take place from the severity of these symptoms, or where the unwarrantable operation of complete excision of the tumour has been had recourse to, as the only apparent means of relief.

In the *second* case also, the dyspnœa was of a spasmodic character, arising, however, not from primary or direct irritation of the muscles or motor nerves of the larynx themselves, but from reflex motor influence, which was excited by the irritation, by the parti-

cles of sand, of the sensory nerves of the mucous membrane of the glottis, and of the neighbouring parts.

After it had been ascertained that no foreign body was lodged above the rima glottidis so as to cause its occlusion mechanically, the line of practice to be followed was very evident; namely, the immediate establishment of an artificial opening into the trachea, to save the patient from being speedily asphyxiated. Much relief accordingly was felt as soon as the tube was introduced.

The operation was thus performed as a measure of necessity, and on account of the dyspnœa alone; but it was also attended by an unlooked-for advantage, as a few particles of sand which had entered the trachea, were thus afforded an opportunity, though unintentionally, of making their escape.

That the latter advantage was not part of the object or design of the operation, is sufficiently evident from the fact, that information as to some particles of the sand having actually entered the trachea was obtained only after the operation had been performed, the symptoms not having been sufficient to warrant the conclusion that these very minute foreign bodies were actually there, as all of the symptoms might have arisen, and probably did arise, from the lodgement of particles of sand in the mucous folds of the larynx, above the rima glottidis, or even from what was not unlikely, the presence of a quantity of the sand in the lower part of the pharynx, behind the larynx,—as the lodgement of a foreign body there has been known, independent of the pressure which it exerted, to cause complete and fatal spasmodic closure of the glottis.

Supposing, however, that in such a case, the existence of a few particles of sand in the trachea could be actually ascertained, the operation of tracheotomy would not even then be warrantable, as the rima glottidis itself would be a sufficient aperture for their extrusion by the expiratory efforts, when the paroxysm of the dyspnœa was over, unless, as occurred in this case, the dyspnœa was so severe and continued, as to demand immediate operation.

In regard to the true pathology of this case, it differs from that of the one first related, in so far as the first case presented some of the characters of laryngismus stridulus, whereas, in the second case, the spasmodic affection of the muscles of the glottis was severe and unintermitting,—the cause not being of internal or of idiopathic,but of traumatic origin :—and it accordingly required immediate operative interference.

The errors in practice which might arise from confusing such cases with those of true laryngismus stridulus, are sufficiently evident, as operative measures are not warrantable in cases coming strictly under the latter denomination, until, after repeated attacks of the dyspnœa, between which there have been intermissions, the patient is at length unable to struggle through the fit, and is in imminent danger of suffocation;—whereas, in cases such as that which forms the subject of these remarks, the operation is demand-

ed almost at the beginning;—just as in the somewhat similar case of a foreign body of considerable size in the larynx or trachea, giving rise to so severe and continued dyspnœa as to demand the performance of tracheotomy to obviate impending suffocation; and I need hardly remark, that to these cases also, the term laryngismus stridulus is inapplicable.

The acute laryngitis which subsequently occurred, in this case, is to be ascribed to the violence of the primary irritation, and also, to some of the particles of sand having lodged in the neighbourhood of the glottis until they were removed by the viscid mucus which was expectorated. And it was not attributable to the entrance of unheated air by the wound, as an acute bronchitis would have been the more likely consequence of this, and as every precaution was taken to prevent the entrance of unheated air.

The suppuration which afterwards occurred in the neck, it is worthy of remark, took place rapidly, and from this circumstance as well as from the reduced state of the patient's system, the matter was diffused in the cellular tissue, the usual barrier of lymph being absent. A free incision was therefore made as soon as suppuration seemed to have occurred, not only in order to evacuate matter which had already formed, but to prevent the formation of more, and the farther destruction of texture which would otherwise have resulted.

(To be continued.)

PART SECOND.

REVIEWS.

Mémoires pour servir à l'étude des Maladies des Ovaires. Prémier Mémoire. Par ACHILLE CHERAU, M.D., &c. Pp. 189. Paris: 1844.
(Memoirs elucidating the Diseases of the Ovaries. First Memoir. By A. CHERAU, M.D., &c.)

THE Memoir of Dr A. Cherau, on the Diseases of the Ovary, though the first of a series, and therefore incomplete, refers to a subject so important in itself, and comparatively so little known, that we think it right at once to bring it prominently before our readers. The author's pathological views are based upon the early development, the anatomy, and physiology of these interesting organs,—subjects which are exciting the liveliest attention of microscopical investigators. These preliminary topics occupy the half of the present memoir; and might claim for themselves a lengthened discussion, as well as analysis.

The Memoir is divided into three parts. 1st, Considerations, anatomical and physiological; 2d, The development of the ovaries, and the abnormal states they assume; and, 3d, Their acute inflammation. The following article is an analysis of, rather than a critisism on, the work of our author; and is intended for the practitioner more than the professed physiologist.

In the human race, the grand function of generation is maintained by two orders of organs, which are wholly distinct;—the organs of *reproduction*, destined for the formation and the secretion of the elements or *germs* of a new being; and, secondly, the organs of *copulation* and of *gestation*. Considered in reference to the whole zoological series, these two orders of organs differ most widely, in relation to their physiological importance; the one is of uniform existence, whilst the other may be wanting in part, or even completely; and this according to the *manner* in which the germs, which are supplied by the female, are fecundated by the male, and according as these germs are ultimately evolved, or not, in the mother's womb. Let us examine any organised being whatever, animal or vegetable, and we shall find, in the female, almost without exception, that there is an organ of *reproduction*,—of formation; in other words, an ovary, varying infinitely as to size, and other characters, but whose function is always the same, namely, to *form* and *reproduce*, by an act of secretion exclusively its own, the elements which are indispensable to the perpetuation of the race. The womb, vagina, &c., are far from being equally constant. In fact, they are only to be considered as *parts added* to the ovaries, destined for the reception and growth of the germ. If they are necessary in man and the mammalia for the evolution of the new being, this is far from being the case in a vast number of other animals, in many of which they are entirely wanting. In this point of view, then, the ovaries are the most important of the organs of generation; they play the first and most important part in this function; and instead of being described, along with the Fallopian tubes, as *appendages* to the womb, it is, on the contrary, more reasonable and philosophical to say, that this last organ is superadded and conjoined to the ovaries and the tubes.

The ovaries, therefore, together with the testes, constitute essentially, or rather solely, the organs of reproduction. It is impossible to conceive a genital apparatus in beings where reproduction is effected by the union of the sexes, without an ovary; whilst, on the other hand, it often happens that the womb is wanting:—it exists in a part only of the organic kingdom.

The ovaries, then, possess, so to speak, a distinct life, quite independent of that of the womb and its appendages, though the two organs are generally allied by the closest sympathies, for the preservation of the race. It is not, however, less true, that the development of the former is not subordinate to that of the latter; that the ovaries may be, and often are, in a diseased state independent of the womb; and that the organic lesions of this last organ are scarcely ever accompanied with a congenital abnormal condition of the ovaries and the Fallopian tubes, so that in the case of a double womb, for example, the uterine appendages are always in their natural condition.

After these preliminary remarks, the author enters into the *anatomical* consideration of the ovaries with all possible minuteness and care. He considers their *form, aspect*, and *situation;* their relation *to the neighbouring organs*; and their *intimate structure;*—assuming for their type the epoch of their full development on the establishment of puberty. He then dwells on the *differences they exhibit in infancy*, and the *modifications they undergo in advanced life*. We cannot, of course, follow him through these details, which are lucidly and accurately given; but must content ourselves with a few brief and passing hints.

It is of importance to be familiar with the *exact situation of the ovaries*, and their relation to the neighbouring parts. When the uterus is in its usual condition within the pelvis, the ovaries, with the intestines super-imposed, are situate upon the lateral part of the womb, behind the bladder and at the anterior part of the rectum. But, in consequence of their great mobility, and the

laxity of their attachment to the uterus, they are so placed that generally, if at all increased in volume, they are accessible to the finger introduced into the rectum. When, on the contrary, the uterus is enlarged from impregnation, hypertrophy, or other causes, it rises from the pelvis into the cavity of the abdomen and the ovaries following its ascent, are thus removed beyond the range of manual examination. When the volume of the ovaries is not such that it can be felt through the abdominal parietes, one method of exploration alone remains, namely, the one by the rectum. It is true that in certain individuals, the mucous membrane of the vagina is so relaxed at its connection with the cervix uteri, that the finger may, by depressing the cul-de-sac which exists at this spot, reach the ovary. This state of parts, however, constitutes the exception; and in the majority of cases it is quite impossible, in this way, to reach the ovaries when not augmented in volume.

Concerning the relation of the ovaries to the neighbouring parts, it should, moreover, be remarked, that abnormal displacements of the uterus, such as retroversion, antroversion, &c., entail marked changes in the position of these glands, as do also tumours of the peritoneum, and morbid collections within its folds. And still more important is it to observe that, on the other hand, morbid affections of the ovaries, especially such as modify their volume and weight, act directly on the uterus, incline it to the right or left of the median line, and may so force it downwards as to produce a descent of the uterus. It is of great importance to remember this fact, and to know how to distinguish between an *essential* displacement of the uterus, and one which is produced solely by an affection of the ovary; for the prospect of relief is much greater when arising from the former of these causes, and many distressing mistakes have been produced by a want of a proper diagnosis.

After some remarks upon the average *weight* of the ovary, and the description of its *surface*, with its natural pits and elevations, the author proceeds to give a description of the *minute structure* of the gland. On this subject he dilates, from its importance both in a physiological and pathological point of view. He divides the ovary into, 1st, A peculiar tissue; 2d, A particular tunic; and, 3d, A peritoneal covering. The proper tunic, *tunica albuginea*, resembles that of the testis, being fibrous, enveloping the gland, and dipping, by cellular prolongations, into its interior. The *peritoneal covering* adheres so firmly, that it can be separated from its connections only after prolonged maceration. The *peculiar tissue* often exhibits somewhat varying characters; sometimes it is compact, and much resembles a lymphatic gland, sometimes distinctly fibrous, and at other times has a strong analogy with the *tela elastica* of Schwann and Eulemberg. All these appearances will sometimes manifest themselves in the same gland. In the human subject, in certain circumstances, and in the larger mammalia in all, muscular tissue is apparent, and even largely developed.

The particular tissue of the ovary, the *stroma* of Baer, is fully described, with its cells and vesicles, or ova, the *Graafian vesicle*, and the minute anatomy of the human ovum, in its unimpregnated state, aslately elucidated by Baer, Valentin, Wharton Jones, Barry, Coste, and others.

The author next discusses the subject of the *corpus luteum*, regarded by some physiologists as the result, by others as a condition, of fecundation. He describes this body as exhibiting always, 1st, A distinct external covering, which is in contact with, and united to the stroma, but which may be entirely separated from it; 2d, A solid substance, fleshy, red, or yellowish, divided more or less into lobules; 3d, An internal membrane, which is the ovisac of Baer; and, 4th, A central deposit of granular matter. His account of the formation of the corpus luteum is in the following terms:— "Arrived at perfect maturity, an ovarian vesicle breaks, and allows its central ovule to escape; this is seized by the Fallopian tube, or oviduct, is carried along its canal, and deposited in the uterus. But the tunics which envelope the germinal vesicle, the ovule properly so called, are not all torn; the rupture is confined to the two external only, to the capsule, whilst those parts which it encloses, and which form the *follicle*, remain intact, and are *together* expelled from the ovary. In other words, the capsule, constituting an integral

part of the ovary, does not accompany the ovule through the passages of the genital organs, whilst the follicle belonging properly to the ovule never abandons it, but accompanies it through all its subsequent developments. Besides, the follicle, after being expelled from the ovary, leaves a small cavity in its place, which is covered by the two membranes of the capsule, which adhere firmly to the stroma. This cavity is filled with a fluid, composed of the blood which the rupture of the capsule has shed, and of a yellowish matter, inclosed in the laminæ which cover the stroma, and between the capsule and the follicle. The clot of blood is gradually absorbed, the small cavity contracts, its parietes approximate, and all that remains is a small yellowish body,—the *corpus luteum*, —of a glandular-looking texture, and very vascular, the vessels being visible to the naked eye. Finally, this small body gradually loses its deep colour, becomes pale, disappears, and is ultimately replaced by a small radiated cicatrix." P. 24.

We shall not dwell upon the author's description of the Fallopian tubes, or *oviducts*, (as he very properly prefers to call them), the uterine ligaments, the vessels of the parts, and the nerves, the account he gives of these parts before the age of puberty, and after the change of life, the analogy he points out between the ovaries and the testes, and his examination of the reproductive organs throughout the animal series;—but will go on to matters of higher scientific and practical interest.

We come then at once to the author's discussion of the phenomena of *Menstruation*, by far the most interesting physiological subject he investigates, and one peculiarly important at the present moment, from the large share of attention it has recently received from many most distinguished investigators. Dr Cherau is not only a convert, but a most strenuous advocate of that theory, which, hinted at many years ago by Freind, Cullen, and Cabanis, has in later times been perfected, we may say, by the labours of Drs Power, Lee, Jones, Bischoff, &c.; but which, notwithstanding, is still demurred to by some, among whom we may name Dr Ritchie of Glasgow, as shown by his late remarkable memoir in *the London Medical Gazette*, and a full account of which we deemed it our duty to publish in this Journal. *(Vide numbers for July and October* 1844.*)* The theory propounded by Dr Cherau is this, that "*Menstruation is a periodic phenomenon, commencing with puberty, and terminating at the critical period of life, which consists in the production and development of ovarian vesicles, that is to say, in the maturation of an ovum, which is periodically developed, either to be expelled with the menstrual fluid from the uterus, or to be destroyed by rupture or inflammation.*" P. 33. It may be interesting to adduce the contrary view; and this we cannot do better than in the words of Dr Ritchie:—"*Instances of one or more menstruations taking place in succession in the same female, without a corresponding rupture of a Graafian follicle, were often seen; and in some cases it was demonstrable, that though the ovaries were occupied by very vascular vesicles, and menstruation was normal, no lesion of a follicle had occurred, even after several months; while in one woman, no less than eight, and in another, probably three times that number of consecutive menstruations elapsed, without the occurrence of that kind of rupture said to be essential to menstruation, was capable of proof.*"[1]

We must, in as few words as we can, endeavour to give a summary of Dr Cherau's proof. He refers generally to the pages of Dr Power, (in 1832), and Dr William Campbell, (in 1833), and to the facts collected by Dr Lee, (*Cyclopedia of Medicine*, vol. iii., 1834.) He also notices some of the valuable labours of Dr Girdwood.[2] He then supplies the observations of MM. Gendrin, (1839), and Négrier, (1840), which strongly support the theory. The following were the appearances in one of M. Gendrin's cases, that of a woman, aged thirty, who hanged herself during the catamenial period:—"The left ovary was injected

[1] Lond. Med. Gaz., 14th July 1844. See, too, this Journal for Oct. 1844, p. 856.

[2] The most recent, and the most interesting, production of Dr Girdwood, will be found at p. 59 of this number.

upon its surface; and towards its middle part, traces of a rupture, to the extent of about a line were apparent; the small cavity might have contained a hempseed, and its parietes were of a lively red colour." Other cases elucidating the same point, are taken from Dr Lee's paper, in the *Med.-Chir. Trans.*, vol. xxii., from Professor F. Argenti's memoir, in the *Milan Journal*, for February 1843, and from the observations of M. Bischoff, (*Expérience*, August 1843.) Finally, on this point, the author quotes Dr William Jones's *Practical Observations on the Diseases of Women*, and the Memoir of Raciborski, lately read to the Royal Academy of Medicine of Paris, (*Expérience*, 1843.) All these authors concur in the opinion, that at each menstrual period, a vesicle forms a nipple-shaped projection on the surface of the ovary, where it soon bursts, a process which is accompanied with a congestion of the internla organs of generation. This theory of the proximate cause of menstruation differs from all former ones, in that it is based upon the post-mortem examination of the parts; and consequently, upon facts which are patent to all observers, and incontestible. To this extent its superior excellence is indisputable. Nor can it well be denied, that in a vast number of instances, the physical changes in the ovary accompany, and according to the theory, give origin to the phenomena of the catamenia. The question now *sub judice* is, Do they always so precede and originate the phenomena,—yea or nay?—a question which we do not yet feel fully prepared to answer.

The class of facts above alluded to, viz., the appearances observed in the ovaries of those who had recently been menstruating, affords only one of the proofs which is insisted upon in support of the theory on which we are dwelling. Others are supplied by numerous considerations derived from physiology, pathology, and comparative anatomy; and at some of these we shall glance.

a. M. Négrier has proved that the ovaries of women who have ceased to menstruate, never contain vesicles recently ruptured, or which are on the point of bursting. In these cases, appearances indicate that all has been dormant since the last menstrual hemorrhage. In young women whose catamenia have been precocious, there is found a concomitant precocity of the evolution of vesicles, which is the very reverse of what is seen in those who do not menstruate till they are more advanced in years.

b. The aptitude to fecundation is especially remarkable during the few days which precede and follow the appearance of the catamenia; a circumstance which, among many others, establishes a parallel between menstruation in women, and the rutting season among the lower animals.

c. In all animals, but especially in those whose reproductive instinct is very strong, (*e. g.*, in frogs,) the ovaries at the time are considerably enlarged, and are distended with ova, which assume an unwonted development. So is it with women at the period referred to, the ovaries are enlarged, exhibit a number of vesicles, and enlarged vessels, and present all the appearance of commencing phlogosis. This physiological fact, admitted by all whose attention has been devoted to the subject, was strikingly exhibited in a woman who laboured under hernia of the ovary, projecting through the inguinal canal of the right side. The volume of the tumour varied much, but was always observed to be large immediately before the catamenia, to diminish on their irruption, and to become very small indeed when the discharge was abundant. (*Vide Verdier, Traité des Hernies*, 1840, in 8vo, p. 394.)

d. Congenital absence of both ovaries is by no means uncommon along with a normal uterus; in such cases, the catamenia never appear. And cases are recorded of extirpation and of artificial atrophy of the ovary, immediately followed by entire cessation of the menstrual phenomenon.

e. On the other hand, cases have been noted in which there was congenital absence of the uterus when the ovaries were present, in which the individuals experienced monthly, violent pains about the pelvis, and all the other symptoms, which accompany ordinary menstruation, though without the sanguineous discharge; and many instances are recorded in which the catamenia continued after the womb was extirpated.

f. In numerous cases of diseased ovaria where the complaint involved the

whole structure of the gland, and not of one only, but of both, menstruation disappeared; and there was often a remarkable coincidence between the complete cessation of the menses, and the entire degeneration of the ovaries; so that the progress of the complaint might be judged of by the disappearance of the catamenia.

g. Well established facts prove, that in individuals labouring under dysmenorrhœa, each menstrual period is often accompanied by the formation, in the cavity of the uterus, of a false membrane, which is smooth, velvety, and in every respect, like a true decidua, so that, upon examination one might conclude there was a true conception, for all its physical appearances are present, save the presence of the fœtus. Hence, it has been supposed that in married women, many abortions, as they are called, or uterine moles, are the consequence of the menstrual orgasm, influenced by accidental causes.

h. Finally, as proving that menstruation does not proceed, as often stated, from general plethora, the singular case may be quoted, in which two young women were conjoined by the lower portion of their backs, and who lived to the age of twenty-two. Post-mortem examination demonstrated that the abdominal vessels of the two subjects anastomosed most freely, so that the circulation of the two was common; and, nevertheless, they usually menstruated at different times, and each in quantities distinctly variable.[1]

These, then, are some of the considerations which, from other sources, may be adduced in support of this theory; and hence, in the words of the author, post-mortem examinations, physiological inductions, and facts derived from pathological anatomy, as well as analogy, prove that as the ovaries of animals, which, at certain periods of the year, acquire an increased vital activity, and energetically develope and mature the germs which they secrete, so the ovaries of women assume an increased action at regular and monthly periods, the consequence of which is the distention of one or more ovarian vesicles, their rupture, and the elimination of the ovule which they enclose. But as these phenomena cannot occur without the glands in which they are situate experiencing a certain degree of vital excitation, or even phlogosis, and as, besides, the ovaries have close sympathies with the external organs and the uterus, this last viscus, favoured by its vascular organization, becomes engorged and congested, and allows the superabundant, and under the circumstances, useless quantity of its blood to escape,—hence the catamenia.

Did space allow, we should with pleasure complete our analysis of the first part of M. Cherau's work; but we must now at once pass to the latter and more practical portion of it.

The second part of the work, as already noticed, is devoted to the diseases of the ovaries; but previous to considering these specially, the author treats generally of their diagnosis, and the means by which they may be recognised. One of the most common characters of the diseases of these organs is an increase in their size, which renders them more accessible to the means of investigation; and in the acute affections to which they are subject, they acquire such a degree of morbid sensibility as to render pressure either upon them, or the neighbouring parts, painful.

The means of exploration at the command of the physician are palpation of the abdominal parietes, percussion, mensuration, and examination with the finger by the vagina and rectum. To these may be added the introduction of the catheter into the bladder, examination of the urine, feces, &c.

In palpation of the parietes, the bladder and rectum should always be empty. Another caution is this, that we must not confound a tumour situate in the pelvis, with a swelling produced by the contraction of the anterior recti muscles, in a certain part of their length. This contraction, excited by the sensibility of the parts, the apprehension of the patient, or the application of the cold hand to the parietes, frequently gives rise, at the spot under examination, to a round, hard, resisting tumour, which is occasionally somewhat moveable. It is sufficient to draw attention to the circumstance to avoid the error.

[1] Elliotson's Elements of Physiology, 4th Edition, p. 460.

On the advantages of percussion, in these diseases, it would be needless to enlarge. Auscultation has sometimes been had recourse to, but it throws little light on the general diagnosis of these affections. On applying the ear to an ovarian tumour, a distinct *bruit de soufflet*, it is true, may frequently be heard, but it is by no means a constant phenomenon; whilst, on the other hand, it is common to pregnancy, and to every considerable tumour in the inferior part of the abdomen. It may be attributed to the pressure exercised upon the arteries, and the impediment thereby offered to the circulation. Churchill met with it in a case where the ovary was filled with serum; on dissection, large and numerous arteries were found upon the tumour. One of the most frequent and natural errors, arising from the occurrence of this *bruit*, has been that of mistaking a tumour of the pelvis for an extra-uterine conception. A case of this kind occurred to Bricheteau. The subject was a woman, in whom, along with the other signs of pregnancy, there was a *bruit de soufflet*, which was thought to be that of the placenta; an ovarian conception was diagnosed. An operation was performed; the patient died six days afterwards; and there was found to have been no pregnancy.

Mensuration throws no immediate light on the diagnosis of these diseases; but during their progress, it may be usefully employed, either for ascertaining if there be any increase in size, or melioration under the influence of treatment.

Examination by the vagina, in a large number of cases, is of little use, as far as regards the ovaries, but it is of importance, as enabling us to determine the state of the uterus itself, in respect to its mobility, the state of the cervix, &c., points of the greatest importance, and which should never be neglected.

We are inclined to think the author attaches too little importance to vaginal examination; for, we are informed by Professor Simpson, that in a large number of cases, he is enabled to feel either ovary *in situ*, by bringing the organ between two fingers in the vagina, and the other hand pressed down into the brim of the pelvis on the corresponding side. The uterus requires to be *anteverted*, and somewhat turned to the opposite side with the uterine sound, in order to stretch the broad ligament of the side under examination. Professor Simpson first ascertained the possibility of making this examination of the ovary, in a case of natural anteversion of the uterus.

Examination by the rectum, according to M. C., however, is, of all the means of exploration in ovarian diseases, not only the most important, but, in certain cases, the only one which can give a satisfactory result. The finger, when introduced through the rectum, readily reaches the side of the uterus, where the swollen and painful ovary may be distinctly felt. It is, unfortunately, however, a mode of examination to which most patients are very averse.

The first portion of this part of the memoir is devoted to *Agénésie* and the faults of conformation; in which the author gives a summary of many cases belonging to this category, and arrives at the following conclusions.

1*st*, "Congenital absence of the ovaries is not necessarily followed by the want of the uterus. The latter organ, however, not being submitted to the sympathetic influence of the reproductive organs, does not acquire, at the age of puberty, that development which it does under ordinary circumstances, and on this account it is found much smaller and atrophied. On the other hand, congenital absence of the uterus is not always accompanied with that of the ovaries."

2*d*, "Complete absence of both ovaries has such an influence on the whole organism, that a woman, so circumstanced, does not assume the peculiar characters which distinguish her sex; the pelvis does not enlarge, the mammæ are not developed, and the catamenia are wanting."

3*d*, "The external organs of generation are also modified; the vagina is narrower, the nymphæ smaller, and the clitoris is reduced to a small tubercle." P. 117.

In the second section, the author treats of inflammation of the ovaries—Ovaritis. This state may originate under three remarkable circumstances.

1*st*, Under the influence of the puerperal state; this is the most common case.

2*d*, A short time previous to, during, and immediately after the appearance of the menses.

3*d*, Under the influence of an inflammatory affection of the uterus, rectum,

cellular tissue of the pelvis, or the peritoneum, but independently of the puerperal state. Hence, there are three species of ovaritis, which M. C. designates as follows:—

1*st*, Idiopathic ovaritis.
2*d*, Puerperal ovaritis.
3*d*, Symptomatic ovaritis.

"These distinctions," he says, "are not arbitrary, or made from a spirit of innovation, but are the expressions of the course followed by nature herself; and although these forms of ovaritis closely resemble each other in their symptomatic characters, yet, they differ so much from each other as regards their etiology, prognosis, and relative frequency, that it is impossible to unite them in the same chapter." P. 122.

The author, accordingly, treats of these affections separately, and afterwards reviews the causes, symptoms, and anatomical characters of ovaritis generally.

Section 1. *Idiopathic Ovaritis.*—At each menstrual period the ovaries enlarge and become congested. If, from any cause, this state of congestion be either carried to a greater degree than usual, or prolonged for any length of time, a true inflammation of the tissue of the ovaries—ovaritis—may be the result, which, in general, is confined to the organ itself, and has for its cause the process of inflammation, of which the ovaries are the seat at each menstrual period. What has been called the menstrual colic, which many females experience at the catamenial period, M. C. believes to be the immediate result of an "inflammatory congestion of the ovaries," and in support of his views several cases are given, of which we quote the following in illustration:—

Case 1. "Madeleine ——, aged 22, had always enjoyed good health till the age of 17. From that period she was always ailing, and constantly complained of a feeling of oppression, and difficulty of breathing, which became aggravated every month. Her catamenial periods were always preceded by considerable pain in the lumbar region, twitches in the thighs, weight in the hypogastrium, and colic. She was habitually constipated. In 1840, without any known cause, she was seized with symptoms of inflammation in the abdomen, which, if we may judge by the description of a non-medical person, must have been peritonitis. The first time I saw her was on the 24th October 1842. For two days she had been suffering from severe pain in the under part of the abdomen, with a feeling of weight in the groins, and twitches in the thighs and loins. The catamenia had appeared 26 or 28 days previously. The face was flushed; skin hot, but moist; the pulse, somewhat more developed than natural, was 80. She complained of severe headach, difficulty in breathing, and on the previous evening she had remarked her sputa was tinged with blood. No stool for the last 48 hours. The abdomen was painful on pressure over its whole extent, but more especially at the left iliac region, where there was a small tumour apparently of the size of a hen's egg, it was somewhat moveable, very painful to the touch, but to the touch only. Notwithstanding my entreaties, the patient obstinately refused to submit to an anal examination. On examining the chest, I discovered pulmonary engorgement of the right side, probably occasioned by the presence of tubercles; the left side was healthy. The patient was largely bled from the arm; fifteen leeches were applied to the groins: foot baths with vinegar, demulcents, and slightly purgative enemata were likewise ordered. Under the influence of this antiphlogistic treatment, the headach and difficulty of breathing were much relieved; but what is especially remarkable, the catamenia appeared next day, and continued for three days in much larger quantity than usual. On the fourth day, the swelling of the left iliac region began to diminish, and from that period the patient was completely convalescent. She now continued well till the month of June of the following year; the appearance of the catamenia, however, being always preceded by pains in the bowels. I was then requested to see my patient a second time, and found her in a state so completely similar to that which I have already detailed, that I need not repeat the description. The same treatment was pursued, with the like happy results." P. 127.

Ovaritis may also occur during the flow of the menses, and may be produced by moral or physical causes producing their cessation, and re-acting on the ovaries. Of this, the following is an example.

CASE 2. "Anastasie ——, aged 24, a servant, menstruated at the age of 13. Since then the catamenia have regularly appeared with little or no pain. On the 2d June 1842, in consequence of exposure to cold while the catamenia were present, the latter became suddenly suppressed. "I was called to her on the 3d, and found her in the following state :—Face flushed, injection of the conjunctivæ, severe headach, pain in the loins and thighs, tongue red at the edges, and white in the centre ; there was also pain in the hypogastric region, especially at the right side, increased by pressure. On applying the hand over the latter part, an undefined swelling could be felt, which from its mobility, and the accompanying constitutional symptoms, was, there could be no doubt, owing to inflammatory congestion of the right ovary. There was constipation; the patient also complained of heat in the external parts of generation, but these I did not examine ; neither did I make an examination per rectum. Pulse 100, of the ordinary fulness; nothing peculiar in the pulmonary organs. She was bled from the arm, had warm foot-baths, cold to the head, fomentations to the abdomen, and a few doses of calomel; under this treatment the constitutional symptoms disappeared in the course of 24 hours. Catamenia still absent. I intended to have applied leeches to the groins, or over the site of the swelling, when the patient expressed a wish to be removed to the hospital Beaujon. I afterwards learned that she was four days under the care of M. Renauldin. She was dismissed cured. I do not know to what treatment she was subjected." P. 134.

Another form of Ovaritis is the rheumatic described by Copland, in his *Dictionary of Practical Medicine*. Pouteau, Villeneuve, Carus, Nauche, Velten, Haasse, Henne, Dezeimeris, Busch, Schidtmuller, Wigand, and Churchill, have observed and described rheumatism of the uterus, but none of these authors, except the last, has spoken of rheumatism of the ovaries, mentioned incidentally by Kruger and Murat as a rare cause of inflammation of these organs. Copland is the only author M. C. is acquainted with, who has shown by cases that the ovaries may be the seat of rheumatic or gouty affections.

Under the second section, the author considers *Puerperal Ovaritis* the most frequent of all the varieties ; and, indeed, the only one admitted and recognised by pathologists. The ovaries are not exempt from the modifications which the system undergoes in the puerperal state; they are in a state of vital excitation, hence the frequency of ovaritis. It may be isolated and independent of any uterine or peritoneal inflammation, but much more frequently it is consecutive to metro-peritonitis ; or there may be inflammation of the uterus and peritoneum, or uterus alone, without our being able to determine the organ primarily affected.

"Whatever the essential nature of puerperal fevers may be," says M. C., "whether inflammation producing fever, or the latter be merely a coincidence; whether there be present a typhoid or miasmatic principle which predominates over the visceral inflammation or not; whatever, in short, be the relations which may exist between the general symptoms observed during life, and the anatomico-pathological alterations discovered after death, it is no less certain that among these latter, the most remarkable, and the most constant, have their seats in the peritoneum and the internal organs of generation, and that of the latter, *the ovaries, in the great majority of cases, participate in the inflammation, are even its principal seat, and are the only organs which show any alteration of structure.*" A number of cases are quoted from various authors in support of this view, but nothing new is added to the subject from M. C.'s own experience. He concludes as follows,—"Hence the various forms of puerperal fever admitted by authors, who, following the impulse given to medicine by pathological anatomy, and uniting all their efforts to localise this affection, have, nevertheless, felt the necessity of admitting several species, according to the parts of the organism principally affected." P. 145.

The third section is devoted to Symptomatic Ovaritis, but of this the author treats very shortly. The relation between the uterus and ovaries is so intimate,

that inflammation readily extends from the one to the other: it is in this way that catarrhal affections of the uterine canal frequently become the cause of ovarian inflammation.

The fourth section is devoted to the Anatomical Lesions, Etiology, Symptoms, Diagnosis, and Treatment of Acute Ovaritis, of which alone the author treats in this memoir. The Anatomical Lesions may be comprehended under the following heads.

1*st degree.* The ovary, slightly increased in size, is resisting and elastic; on pressure, it yields a sensation of fluctuation; its surface is smooth, polished, and glistening; its tissue, redder than natural, and less resisting, is moist with fluid, and traversed by a number of small vessels, especially in the neighbourhood of the small cells, which, placed at the surface of the organ, contain ovules, either arrived at, or nearly in, a state of maturity. The ovarian vesicles themselves are often also more developed and more distinct. In this first degree the oviduct is also sometimes implicated; it then becomes vascular, gorged with blood, and its extremity lies closer to the ovary than usual.

2*d degree.* The ovary is much more enlarged. Like the testicle it enlarges considerably when inflamed; in the course of three or four days it may attain to three or four times its natural size. It becomes rounded, oval, or flattened, soft, friable, infiltrated with a yellowish or violet-coloured serum, and sometimes small effusions of blood are to be found here and there. Under this stage may be placed the *red softening*, in which the tissue of the ovaries, the stroma, is converted into a friable mass of a deep uniform red colour, having very much the appearance of the parenchyma of the spleen.

3*d degree.* If the inflammatory process has been sufficiently intense, or has not been actively treated, it gives rise to the secretion of pus, which may be either disseminated, or infiltrated between the lamellæ of the tissue of the organ, or, on the contrary, it may be collected into a single pouch, or contained in several, which communicate with each other. M. Négrier has described purulent deposits scattered through the ovaries, which he regards as inflamed Graafian vesicles, filled with a morbid fluid of their own secretion. The Fallopian tube has also been found dilated and filled with pus.

4*th degree.* Under this head occurs the grey, or putrilaginous softening of the ovaries, examples of which have been detailed by various authors, and among others by Madame Boivin. In this last stage of ovaritis, the stroma loses all trace of organization, at least in a portion of its extent; it is converted into a sanious matter, of a greyish or *vinous* colour, almost diffluent, and which approaches very nearly to gangrene, if it be not indeed death of the ovarian tissue.

Besides these alterations there are others which cannot be described under any of these different degrees, because they occur in the various phases of the disease without being special to any of them; such are adhesions of the tubes to the ovaries or the neighbouring organs, as the uterus, cæcum, bladder, colon, and mesentery.

Etiology.—Having already glanced at the causes inducing ovaritis, under its divisions, we need not recur to them here. In regard to the ovary affected, it appears that in Idiopathic Ovaritis especially, the left is more generally attacked than the right. Out of 43 cases the disease occurred in the

Left ovary, . .	in . .	25 cases.
Right ovary, . .	„ . .	11 „
Both, . . .	„ . .	4 „
Side not indicated, .	„ . .	3 „
		43

Throwing aside those in which the affected side is not mentioned, and the two where both ovaries were diseased, there remain, of the left side 25, and of the right 11.

The only explanation as yet offered of the greater frequency of inflammation in the left than in the right ovary, is its greater proximity to the rectum, an overloaded state of which may irritate the gland.

Terminations.—Of these *Resolution* is the more common, *Suppuration* the more rare. When pus forms, it escapes in one of two ways: the sac con-

taining the matter may either remain free, or it may contract adhesions with the neighbouring parts. In the former case the pus, having perforated its walls, escapes into the cavity of the abdomen, producing fatal peritonitis, as in the following case. A woman was admitted into the Hôtel Dieu on 10th of June 1833, with the following symptoms—general uneasiness, fever, giddiness, headach, and pain of abdomen. These continued for fifteen days, after which she was suddenly seized with acute pain in the umbilical region, shivering, diarrhœa, with great alteration of the features. She died in a few days. On dissection, pus was found in the cavity of the abdomen, and the intestines were covered with false membranes, but no perforation could be discovered; on their internal surface there was some redness and slight ulceration of one of the Peyerian glands. In the ovaries, which were unequal and rough, perforations were found, and abscesses filled with pus. The neck of the uterus was somewhat developed, and raspberry-like.

In those cases where the ovary has contracted adhesions, the abscess may open into the *rectum*: this is the most common occurrence. Thus, a girl, aged 24, was admitted into the Hôtel Dieu in June 1829. She was emaciated, had foul tongue, and a bitter taste in her mouth; there was slight effusion into the abdomen, with tumefaction in the neighbourhood of the liver, which projected somewhat below the ribs; there was a tumour of the size of the fist in the left iliac region, painful on pressure; also amennorrhœa; the urine contained a whitish matter, which readily dissolved, and appeared to be pus; her stools were watery, and contained well-formed pus; the uterus had contracted; on examination by the vagina, the tumour was found adhering to the uterus. She stated that her delivery, which had taken place three months previously, was hastened, and that force had been used. She left the hospital without being cured, voiding pus with her stools.

But besides opening into the rectum, the abscess may also open, 2dly, Into the *bladder;* 3dly, Directly into the *oviduct;* 4thly, Into the *vagina;* 5thly, Through *the walls of the uterus;* or, 6thly, It may happen that adhesion having occurred between the two folds of the peritoneum, an abscess may work its way beneath the anterior abdominal parietes, whence it may obtain an issue either spontaneously or artificially; and finally, an ovarian abscess may open into the *caput cœcum*, or the *colon*, into the *inguinal canal*, or under the *crural arch*. *Ramollissement*, *Gangrene*, and *Induration*, are the only other terminations of ovaritis which it is necessary to specify. A considerable number of authors have alluded to the former; among whom we may name, Morgagni, Montault, Fergusson, and Cruveilhier; and cases of its occurrence are by no means rare. The same remark may be made concerning Gangrene, cases being mentioned by Madame Boivin, Velpeau, Kruger, and others. The subject of Induration M. C. reserves for another memoir.

SYMPTOMS.—Under this head a few words on the *Diagnosis* of acute ovaritis are premised, mainly for the purpose of demonstrating that it is not always easily attained. The three most marked symptoms are undoubtedly *pain* in the gland, *increase of its size*, which thus forms *a well marked tumour*. These, together with the other symptoms, more or less constant and characteristic, and the analysis of the causes which have produced the complaint, must guide the practitioner in his diagnosis. Pain, and more especially increase of volume being wanting, *a certain diagnosis* is impossible. The discovery, therefore, of the precise site of the enlargement, and the distinguishing it from others in the same locality, should especially excite the attention.

In most cases of inflammation with enlargement of the ovaries, a tumefaction, usually not accurately circumscribed, may be felt by palpation in the hypogastric region; sometimes it cannot be isolated, and at others it can, varying from the size of a pigeon's egg to that of the fist; sometimes nearly immoveable, at others the reverse, especially from side to side, or when depressed into the pelvic cavity. This tumour is extremely painful under pressure; when percussed it gives a dull sound, the hollow viscera having been previously pushed aside. Frank and Schönlein both speak highly of this method of diagnosis. 2dly, The inflamed ovary, instead of rising above its natural position, sometimes,

on the contrary, descends more deeply into the pelvic cavity; it retracts behind the uterus, to the side of it, in front of the rectum, and may be perceived by the vaginal *toucher:* this is not, however, always easy. The object is promoted by desiring the patient to walk about a little, immediately before the exploration, and effecting it when she is resting on her knees, and compressing the hypogastric region. 3dly, If the malady has not been discovered by either of the previous methods, recourse must be had to examination by the rectum.

Being thus convinced of the existence of an abnormal swelling, the next step is to determine the affected organ. The symptoms will greatly aid us; but even in their absence, our task can usually be accomplished by the method of the exclusion of other tumours, and a familiarity with the true character of ovaritis. Phlegmonous tumours, in the parietes of the abdomen, in the interstices of the muscles, in the sub-peritoneal cellular tissue, and psoas abscess, are the complaints most likely to be confounded with an inflammation of the ovary, or of the broad ligament; to which should be added, an accumulation of hardened fœces in the large intestine. Any obscurity from this last cause can only arise from inattention; and the nature of the cause once ascertained, the remedy is apparent. Abscess of the anterior parietes of the abdomen is only likely to produce obscurity, when the ovarian tumour has contracted adhesions with the part; in all other cases, accurate palpation, and varying the position of the patient, will show the real state of matters. In the case specified, the depth of the tumour, the specific symptoms of ovaritis, and the *toucher* will very much assist the practitioner. Nor is the difficulty greater in cases of the formation of abscess in the psoas and neighbouring muscles, or in the iliac fossa. In these cases the limb is most cautiously flexed upon the pelvis, the patient halts in walking, and exercise occasions great aggravation of the pain; in ovaritis, on the contrary, though the tension is as great, yet the precise position of the parts is scarcely regarded, and the limb can be extended without increasing the uneasiness.

The most marked and characteristic symptoms of ovaritis are, 1st, Pain over the pubis, between the uterus and the side, in the region of the ovaries; this pain more particularly affects the iliac fossæ, and thence extends across the lumbar region to the fundament and thighs; it is lancinating, increased by pressure, and is sometimes almost overwhelming; it may be pulsating, if the parenchymatous part of the ovary is particularly implicated, as with suppuration, abscess, &c. "If," says Carus, "on pressing the *hypogastrium and thighs* with the palm of the hand, the patient winces, contracts the brows, and experiences convulsive movements in the limbs, we may conclude that ovaritis is present." 2nd, The external parts of generation are morbidly heated, to the apprehension both of the patient and of others; the os tincæ is painful on pressure, and sometimes there is difficulty in micturition. There is often sympathetic irritation of the bladder and rectum, and a frequent call to empty these parts. 3rd, In the more acute cases, there is headach, redness of the face, heat of the skin, (though moist,) foul tongue, bitter taste in the mouth, and general anxiety; in short, all the symptoms of decided constitutional reaction; the pulse is strong, and the respiration accelerated.

The malady which undoubtedly may most readily be confounded with acute ovaritis is inflammation of the uterus or hysteritis; and, in fact, when the inflamed ovary has not so enlarged as to be detected by any exploratory means, the diagnosis often proves extremely difficult; and the more so, as the complaints frequently co-exist. M. C. is quite convinced that a great number of the recorded cases of metritis are nothing more than examples of ovaritis, in which the broad ligaments, and the Fallopian tubes may have participated. The diagnosis between these two diseases consists in the pain of metritis being more central, generally more frequent and lancinating, but being destitute of those spreading irradiations which are so striking in ovaritis; also, in its seat being immediately above the pubis, where a tumour—the enlarged uterus—is felt.

The Prognosis of ovaritis may be stated in the following terms:—When recognised early, and treated with decision, acute ovaritis usually terminates in resolution, and is not a very formidable complaint; but if misunderstood, or

left to itself, it frequently terminates in suppuration, sometimes in mortification, and so forms a serious malady. Even in these cases, however, such is the healing power of nature, that a cure may often be accomplished. Sometimes the attack is so urgent, that it terminates fatally in the course of two or three days; fortunately, however, this occurrence is rare. Generally speaking, puerperal ovaritis is a more serious disease than idiopathic; and especially, if it is accompanied with metritis, or epidemic metro-peritonitis.

Treatment.—Acute ovaritis must be treated from the commencement by decided antiphlogistic remedies. In this way, the immediately distressing consequences of the inflammation are anticipated, and what is of not less importance, the development of those chronic affections which are peculiar to the ovary, and so common in practice, is prevented: when one of these insidious complaints has once begun, its obstinate nature is but too well known. The disorder usually occurs in women of sanguineous temperament, and who present the phenomena of relative plethora. A full bleeding at the arm, which may be repeated once and again, is often attended with the most marked benefit, removing all the constitutional symptoms, and the urgent local distress. This may be followed by the application of leeches to the neighbourhood of the affected parts, conjoined with fomentations to the hypogastric region, and irritating pediluvia. The warm bath and emollient injections are also useful. M. Lisfranc strongly recommends the free anointing of the lower part of the abdomen, and the neighbouring parts with mercurial ointment. The internal use of calomel is much recommended, both as a purge and a specific, pushed so far as to affect the mouth. Laxatives are useful, and the diet must be carefully regulated.

If, in spite of all these remedies, suppuration of the gland still occurs, then, according to the suggestion of Churchill, recourse must be had to repeated fomentations and renewed cataplasms; the object of course being to promote the suppuration. Every care must now be taken early to discover the exact locality of the pus, to prevent the abscess breaking of itself, and to evacuate it in that direction, which is most eligible. A preference is to be given to the abdominal parietes, and then to the walls of the vagina. If the prospect of evacuation in either of these is small, the method so successfully employed by Dr Graves in abscess of the liver, should be canvassed; namely, the incision of a portion only of the thickness of the abdominal parietes, followed by the application of linseed-meal poultices; the pus then almost always finds an exit by the artificial wound. When an opening is once formed, it is important that the free issue of the secreted matter be maintained.

By the extension which this article has attained, we have shown our anxiety to do all justice to the work of Dr Cherau. We trust that, with undiminished assiduity and care, he will go on with his monograph, and finish as he has commenced it, in a manner as creditable to himself, as it is satisfactory to his professional brethren.

Treatise on Inflammation, as a Process of Anormal Nutrition. By John Hughes Bennett, M.D. Edin., F.R.S.E., *Lecturer on the Practice of Physic, Edinburgh, &c. &c.* Edinburgh: 1844.

Numerous articles, inserted from time to time in this Journal, must have convinced our subscribers, that we have constantly kept in view the importance of those modifications in the Science of Medicine, which a more extended application of the microscope and organic chemistry have introduced. Inflammation is a subject concerning which, as Dr Bennett remarks, most pathologists are obliged to acknowledge that they know nothing; and practical men, though they profess themselves capable of detecting and treating it, are all ready to confess their ignorance of its nature. If, then, the microscope and organic chemistry are worth any thing in clearing away the obscurity which

rests upon the cause and nature of disease, it is in the light thrown upon the process of inflammation, that we ought to see it most unequivocally displayed. Of the benefits, which are likely to result from the use of the microscope, the paper of Mr Syme, in our present number, offers one of the best examples on record; and there is every reason to hope, that in many other cases, the more intimate our knowledge becomes of the nature of disease, the more rational and exact will be our means of treatment.

In the summer of 1843, Dr J. Hughes Bennett gave a course of lectures to the College of Physicians, and the leading members of the profession in Edinburgh, on Inflammation. The substance of these lectures is embodied in the treatise before us. They were illustrated by numerous demonstrations under a series of achromatic microscopes; and were calculated to show the importance of microscopic and chemical researches as a means of advancing pathology and the diagnosis of disease.

A perusal of Dr Bennett's treatise must convince every one that the advances in modern pathology have produced a complete revolution in our ideas concerning inflammation. Macartney, indeed, some time ago maintained, that however nutrition was accomplished in a state of health, healing took place in the same way. He did not, however, satisfactorily describe any one step of the process. Dr Alison, also, has always taught and written, that "a peculiar perversion of nutrition or of secretion is essential to the very existence of inflammation." But Dr Bennett tells us, that inflammation is nothing but a process of anormal nutrition, the essential phenomenon of which is an increased exudation of *liquor sanguinis*, or blood plasma. Dr Alison observes, "that the various effects which are ascribed to inflammation,—adhesion, suppuration, ulceration, and gangrene,—are very different from one another, and that we cannot satisfactorily point out the cause, or even the mode by which each is effected." (*Lib. of Med.*, p. 53.) Dr Bennett conceives that he has accomplished this.

"In the same manner," says he, "that Schleiden in plants, and Schwann in animals, have indicated the steps of normal nutrition, owing to the formative influence of a vital blastema, so it has been our endeavour to point out the mode in which abnormal nutrition acts in producing the various results of inflammation, from the transformations of the exudation." P. 77.

Without giving a minute analysis of the work, it would be impossible for us to do it justice. The following extracts, showing the manner in which resolution occurs,—a subject surrounded by much obscurity,—will give a favourable idea of the author's style.

"It occasionally, though rarely, happens, that the exudation does not coagulate for some time after it is exuded. Under these circumstances, when the early phenomena terminate, it re-enters the vessels, by endosmosis, unchanged. In the majority of cases, however, it coagulates; and once rendered solid, it could never be absorbed without the occurrence of changes in it, by which it is again rendered fluid. This is effected by the formation, ripening, and disintegration, or decay (moulting process, of Schultz) of nucleated cells, whereby the coagulated exudation is broken up, made soft, pultaceous, and diffluent, and at length absorbed. It is by this process that exudation poured out into the lung or brain gradually disappears, by the production of inflammatory softening, such as we have previously described it. On the lower surfaces, the fluid and broken-down corpuscles are absorbed; but that portion which passes into prominent organization, is transformed into fibrous tissue, becomes covered with a smooth membrane, so that the functions of the organ are not disturbed. Abscesses, when resolved, undergo a similar process. The pus cells, instead of being evacuated, are brought close together, from the absorption of the more fluid portion, (liquor pusis). These are gradually broken down, the cell walls are dissolved, and the whole is reduced to a molecular matter, which re-enters the vessels, and thus complete resolution is produced." P. 64.

"The next point to be determined is, what becomes of the molecular fibrine, which thus re-enters the circulation? On this subject, the observations of several German physicians, more especially of Schönlein and Zimmerman, have thrown much light. They have observed with great care the changes which

the urine undergoes in acute inflammatory diseases, and determined that these changes bear a relation to the absorption of exuded blood-plasma in internal organs. Thus, in a case of pneumonia, which I watched in La Charité Hospital, Berlin, under Schönlein, in 1841, he pointed out, that the disappearance of dullness was accompanied by a turbid state of the urine, which contained a large amount of molecular fibrine, and was also highly coagulable by heat. Similar results have been frequently observed in the clinical wards of Schönlein, during the resolution of pleuritis, erysipelas, small-pox, abscesses, and other diseases. M. Martin-Solon, in his work, *De l'Albuminurie*, 1838, observes, that in a great number of acute febrile and inflammatory diseases, such as ague, typhus, measles, small-pox, febrile urticaria, pneumonia, gout, rheumatism, and inflammation of serous membranes, he has remarked, that the urine, for some days about the period of crisis, yields a more or less abundant precipitate, which is owing to a superabundance of lithate of ammonia. Zimmerman, more especially, has recorded instances where the turbidity and coagulability of the urine bore a marked relation to the diminution of suppurative swellings. In some cases where purulent or attic pus was apparently absorbed, he had observed, that the urine was coagulable from the presence of fibrine dissolved in it. In a case of pleuritis, and another of pneumonia, where change in the urine was observed, the blood also was found to contain an excess of fibrine." P. 65.

"The morbid disposition in urine is not always the same. It is very probable, that the fibrine, whilst circulating in the blood, undergoes certain changes of a chemical nature. According to Liebig, the oxygen of the blood converts the fibrine into urate of ammonia, choleic acid, sulphur, phosphorus, and phosphate of lime. Each of these undergoes further changes. The urate of ammonia, by the further action of oxygen, is converted into urea and carbonic acid; the choleic acid, into carbonic acid, and carbonate of ammonia; the sulphur and phosphorus, into sulphuric and phosphoric acid, which, combining with an alkali or earth, form sulphates and phosphates. If it should happen that the quantity of oxygen taken in is not sufficient completely to accomplish this cycle of changes, then, instead of urea, either urate of ammonia appears in the urine, or, if the ammonia have entered into any other combination, pure crystals of uric acid or fibrine. In this manner we can comprehend how, after the resolution of acute inflammatory diseases, different sediments appear in the urine, from the conversion of the excess of fibrine contained in the blood." P. 66.

This little treatise not only embodies all the facts which the microscope and organic chemistry have lately added to our knowledge of inflammation, but contains the results of numerous researches made by the author, during the last four years. It is an important contribution to pathology; and ought to be read by every one who feels an interest in the advancement of medicine.

A Report of the Obstetric Practice of University College Hospital, London. By EDWARD WILLIAM MURPHY, A.M., M.D., *Professor of Midwifery in the College, &c.* Pp. 53. Dublin: 1844.

Impressed with the importance of accurate statistical information, in reference to the theory and practice of Midwifery, we have availed ourselves of several original communications on the subject, and have gleaned every thing which appeared valuable, either in a theoretical or practical view, from the pages of our cotemporaries. The Report before us is drawn up by a physician of extensive experience, and bears manifest internal evidence of extreme care and accuracy: wherever it was impossible to obtain all the necessary particulars, or where there was the *least doubt* as to their certainty, the cases were altogether omitted: so that every confidence may be placed in the details, the more important and interesting of which we now proceed to lay before our readers.

The age at which the *catamenia* first appeared, the interval of their return, and their last appearance before pregnancy, were carefully noted; and the results, on the two first questions, confirm those already obtained by Mr Roberton and Dr Lee. There appears to be a great variety in the age at which the discharge in question first appears; 9 and 20 years seem to be the extremes; the most frequent period of its occurrence is between the ages of 12 and 18, and of those here recorded, it commenced, in the greater number of instances, at 15. In some of those cases where the menses began at an earlier age than 15, it appeared but once, and did not return again for some time. In one instance it began at 9, and did not re-appear until 17.

A variety will also be observed in the catamenial periods, but the great majority of instances occur every 28 days, and the next period in frequency is 21 days; the other cases are so few, that they can only be considered as rare exceptions to a general rule.

The number of days between the cessation of the catamenia, and the day of delivery, has been calculated in every case where the woman was certain of the day upon which it ceased; and the author has also had an opportunity of examining tables, relating to the gestation of the cow, kept by Earl Spencer. From both tables it appears, that 285 days is the most frequent period of gestation. In the tables of human pregnancy, the exact period of conception is uncertain; but it is obvious there are exceptions both above and below 285 or 280 days. In one case, the period of gestation was 261 days, on the authority of the mother, who stated, that the conception was the result of a single connexion; but such testimony is not much to be depended upon.

An examination of the tables shows a *progressive* increase of the duration of pregnancy up to 328 days, and two cases which extend to 342 and 352 days; if we deduct the menstrual period from these cases, there still remain 314 and 324 days. These two cases are detailed at length; we select the second, or most protracted, for quotation.

"Case. *Protracted Gestation*, (352–28=) 324 *days.*—Martha Palmer, aged 33, 15 Southampton Street, Euston-square, was pregnant of her fifth child. She is a married woman, her appearance respectable, intelligent in manner, and very clear in her answers to any questions put to her. She was pregnant with her fifth child; her four previous children were all girls, with the second of whom she had a protracted pregnancy; her health was always good; the catamenia commenced at 15, and returned every four weeks, sometimes sooner, but never later. It ceased in the first week of March 1843, soon after which she was seized with nausea, and constant sickness of the stomach; not suspecting pregnancy, she was placed under treatment for it as disease, but the means used not having relieved her, led to the belief that the irritation of the stomach was the effect of gestation; nothing further was done, and it ceased naturally. She had also occasionally a sense of weight and fulness about the loins. The movements of the child were felt in July following, and she was delivered, February 16, 1844, of a boy. She stated that the child was not then above the average size, but at the time these notes were taken (August 1844) it was unusually large and fat for a child six months old.

"In this case, if conception be dated from the occurrence of nausea, (about the middle of March), the period of gestation would be about 338 days,—more than 11 months!"

The period of gestation, alleged to have occurred in these cases, is so very protracted, that probably some fallacy has crept into the mother's calculations or dates. In the celebrated Gardner Peerage case, the reader will recollect, the question at issue was, whether utero-gestation could extend to 311 days. Seventeen medical men were examined, five denied, and twelve admitted the possibility of the occurrence. In the case alluded to by Dr A. B. Granville, in his evidence, as having occurred in *his own private practice*, (that of his own lady), the period of gestation was alleged to have been only 318 days.

By the law of this country, a child born six months after the marriage of the mother, or ten months after the death of the father, is considered as legitimate.

The following tables show the duration of gestation in the human subject, and in the cow.

1st, Period of Human Gestation, with Proportion of Cases.

Days of Gestation.	Number of Cases.	Days of Gestation.	Number of Cases.	Days of Gestation.	Number of Cases.	Days of Gestation.	Number of Cases.	Days of Gestation.	Number of Cases.
186	1	254	4	267	2	280	2	292	4
208	1	255	2	269	5	281	2	293	2
215	1	256	3	270	6	282	4	294	2
220	1	257	1	271	3	283	7	295	2
231	1	258	1	272	4	284	6	296	4
233	1	259	1	273	7	285	10	297	6
238	2	261	1	274	3	286	4	298	1
241	1	262	1	275	5	287	6	299	4
248	1	263	1	276	1	288	3	300	4
250	1	264	4	277	4	289	5	301	4
251	2	265	4	278	6	290	2	314	1
252	1	266	3	279	7	291	3	324	1
						Total number of cases . .			186

II.—Periods of Gestation in the Cow, with Proportion of Cases, from the Tables of Earl Spencer

Days of Gestation.	Number of Cows.	Days of Gestation.	Number of Cows.	Days of Gestation.	Number of Cows.	Days of Gestation.	Number of Cows.	Days of Gestation.	Number of Cows.
245	1	271	3	279	19	287	25	295	1
252	1	272	2	280	17	288	23	296	4
254	2	273	2	281	20	289	18	297	2
260	1	274	1	282	31	290	17	298	„
262	1	275	7	283	33	291	12	299	„
263	4	276	6	284	36	292	10	300	„
268	2	277	8	285	35	293	7	301	2
270	2	278	13	286	18	294	5		
						Total number of Cows, . .			391

It was found impossible to ascertain the *Duration of Labour*, as assistance was not requested till it had so far progressed.

The results are stated in 467 cases.

The number of boys delivered were .	248	
„ girls „ . .	222	twins 3
	470	
Patients delivered naturally, . .	449	
„ by forceps, . . .	4	
„ by perforation, . .	2	
„ by version, . . .	2	
	467	

The vertex presented in	447
The face in	7
The feet in	6
The arm and shoulder	2
Position not given in	8
	470

Results to the Mother.

Recovered rapidly,	454
„ slowly,	10
Died of puerperal fever,	2
„ cholera,	1
	467

Results to the Child.

Born living,	443
Still-born,	19
Putrid,	4
Premature,	4
	470

The following are the causes of deaths in nineteen still-born children:—

Prolapsed funis,	2
Funis tied tightly round the neck,	1
Shoulder position, with hæmorrhage,	2
Knees presenting,	1
Hæmorrhage,	1
Forceps,	1
Perforation,	2
Death ascertained before labour,	2
Unexplained,	7
Total deaths,	19

The means adopted to secure a favourable separation of the placenta, were to support the uterus with the hand applied to the fundus, while it was contracting to expel the body and limbs of the child, and afterwards to continue that support, until a bandage was applied round the pelvis or abdomen, or, if the uterus were felt contracting, to increase its force by *moderate* pressure. We are glad to find that Dr Murphy still advocates the use of the bandage,-which, we are sorry to think, is decried as worse than useless by parties professing much familiarity with all the details of midwifery practice.

The placenta was expelled in		5 minutes	in	53 cases.
„	„	10 do.	„	58 do.
„	„	15 do.	„	102 do.
„	„	30 do.	„	72 do.
„	„	1 hour,	„	72 do.
„	within	1 hour	in	362 cases,
„	„	1½ do.	„	16 do.
„	„	2 do.	„	9 do.
„	„	2½ do.	„	4 do.
„	„	3 do.	„	6 do.
„	„	3½ do.	„	7 do.
„	„	4 do.	„	4 do.
„	„	5 do.	„	2 do.
			Carry forward,	410

Brought forward,	410
Result not stated in	57 cases,
Total number of cases,	467

The placenta was retained from suspension of uterine action, or from uterine inertia, in . . . . . 11 cases.
From irregular contraction, ... 4 do.
From adhesion, ... 6 do.

All the cases in which operations were performed, and eight other interesting and formidable complications, are detailed fully and lucidly, but our limits compel us to give a very brief account of the forceps cases only.

The Forceps were used in six cases, but in two without effect.

The first forceps case was one merely of inefficient action of the uterus, produced by the mental inquietude of the patient. She had a fixed impression that she must be delivered by instruments, and they were only applied to control her restlessness, and to secure an efficient action of the uterus. The next case was one in which the difficulty was at the outlet of the pelvis, principally caused by the rigidity of the perineum, against which the head was pressing *for six hours*. The vectis was first tried without effect, but delivery was accomplished by the forceps. The motive for the operation in this case was the fear that inflammation of the perineum and vagina might be the result of further delay. Already the parts were becoming swollen and painful, and although the utmost caution was used, a *slight* laceration took place. This was the only unfavourable consequence; the inflammation of the perineum soon subsided, and the patient quickly recovered.

The third case was one in which a strong young woman was in labour with her first child. The action of the uterus was powerful, but not sufficient to force the head beyond the cavity of the pelvis, where it was arrested *five hours*, with every evidence of want of space; there was sufficient room, however, to feel the ear of the child, and so to apply the forceps. Steady and powerful efforts were required with the pains, but at length the child was safely delivered, without any injury whatever to the patient. She recovered rapidly.

The fourth case was also one in which a young woman, slight and delicate in her appearance, was in labour with her first child. The uterine pains were neither strong nor active, and the disproportion between the head and the pelvis sufficiently great to make it impossible to feel the ear. The head was fixed between the ischia for *five hours* without any advance, and some symptoms of inflammation of the passages appeared. The forceps were applied, and the head was extracted with great difficulty. The child was still-born; and the head was greatly compressed by the instrument. A very troublesome inflammation of the vagina followed, from which, however, the patient recovered, without any other ill effect than a leucorrhœa, which continued some time afterwards.

The 5th and 6th cases, in which delivery was not effected by the forceps, were both instances of contracted pelvis requiring the perforator. We deem the following sound doctrine:—

"1*st*. That as a general rule, the forceps are useless if there be not sufficient space to feel the ear. The chances are greatly against saving the child, and equally in favour of doing injury to the soft parts. To this general rule there may be, it is true, a few rare exceptions; but not sufficient to disturb the principle. 2*nd*. That in those cases where the forceps cannot be so employed, the action of the uterus *generally* destroys the child, so as to admit of perforation before inflammation sets in, but that where inflammation presents itself before the death of the child, and is extending, the head can be lessened, and the child removed in sufficient time to prevent dangerous consequences to the mother."

There were in all 23 cases of hæmorrhage.

Hæmorrhage	before the birth of the child in .	3 cases
„	before the separation of the placenta in	13 „
„	after the delivery of the placenta .	7 „
	Total cases .	23

After detailing a fatal case of puerperal fever following the operation of perforation, he gives the following interesting account, which seems to afford an illustration of one cause of this fearful disease. The discharges which flow from the uterus after a protracted labour, or when it contains a putrid fœtus, are familiarly known to give rise to a considerable irritation of the surface, but in this instance they appear to have acted as a *morbid poison.* The woman had been fifty hours in labour when the child was delivered, and had been subjected to great privations, and lived in a low ill-ventilated apartment.

Case.—"The fever commenced with headach on the evening of the 5th, and hastened rapidly through its stages between that date and the 9th. About the same time (5th), the writer observed some red pimples, very itchy, on both his arms; at first they were not attended to, but they soon began to acuminate, became painful, and were surrounded by an inflamed base. Pustules of this character having been produced on the hands on former occasions by the irritating discharges from the passages, it was supposed they would take the same course, but, on the contrary, they were accompanied by a great deal of febrile irritation, and the largest of them, on the right arm, resembled, in many of its characters, the *malignant pustule,* being surrounded by a perfectly livid base; at the same time, the absorbents were not inflamed, nor the lymphatic glands enlarged, and, with the exception of the febrile irritation alluded to, the general health was not much affected.

"However, on the 8th and 9th, both arms were beginning to swell, and on the 10th, when the pustules seemed matured, they were painful, and heavy. On that day Mr Liston, who had before seen them, and through whose promptitude and kind attention more serious consequences were averted, thought it advisable at once to adopt the only means which appeared effectual in arresting their progress. Each pustule was divided by a crucial incision, and destroyed with caustic potash: in doing so, that with the livid base caused scarcely any pain in comparison with the others. They were treated with water-dressings, a generous diet, exercise in the open air, and tonics. The relief was instantaneous; the arms were no longer painful, the swelling subsided, and no further inconvenience was felt, than what attended the separation of the sloughs. When these had quite healed, another appeared on the thumb without the livid base, but this was only superficial to a deep slough of the cellular tissue beneath; a deep incision was made, in order that it might be detached, which was soon accomplished.

"The history of this attack is given in connexion with the case,only because of its apparent importance in investigating the causes of puerperal fever; the appearance of the pustule, produced by direct contact, was contemporaneous with the symptoms of fever in the patient, and its character was certainly not such as would be the result of ordinary irritation."

Dr Murphy's report, in our opinion, is quite a model for such documents.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

ON THE NATURE OF CORPORA LUTEA, AND THE DIFFERENCES THEY PRESENT IN THEIR ASPECT, ACCORDING AS THE EXPULSION OF THE OVULE HAS BEEN FOLLOWED, OR NOT, BY CONCEPTION. BY M. RACIBORSKI.

THE following are the conclusions with which the author terminates his memoir:—

1st, Corpora Lutea are produced by a true hypertrophy of the granular layer which lines the internal membrane of the Graafian follicles. The anatomical elements of these two parts are precisely similar; but the granulations of the corpora lutea are much more numerous, and contain more oily globules of a yellow colour.

2d, The transformation of the internal coat into a corpus luteum commences before the rupture of the follicle, and at the period it is about to burst, to allow the ovule to escape.

3d, As soon as the Graafian follicle has burst, the transformation of the internal membrane into a corpus luteum acquires an extraordinary activity. But two important distinctions must here be made, according as the expulsion of the ovule has been spontaneous, as occurs after each menstrual period, or the period of the rut, or that it has coincided with sexual intercourse followed by conception. In the females of most domestic animals, the sow, the sheep, the cow, &c. this distinction does not exist. In these animals, whether sexual intercourse has taken place or not, the expulsion of the ovule is always followed by the formation of corpora lutea, under the form of fleshy masses of a yellowish or reddish colour. But in woman, if the expulsion of the ovule has not been followed by conception, as after each menstrual period for instance, then the granulations increase in number and size; but this activity of nutrition ceases so soon as the thin membrane of a more or less marked yellow colour is formed, and which adheres to the proper membrane of the follicle; and in the cavity which it surrounds traces of a clot of blood are always to be found. But when expulsion of the ovule coincides, on the other hand, with conception, the elements of the granular coat increase in size and number, so much so, that in a very short time they form a voluminous mass, which of itself fills the whole cavity of the follicle.

4th, In all women delivered at the natural period, a corpus luteum, such as we have described, exists. But what is most remarkable, is the rapidity with which these corpora lutea decrease and become atrophied, as soon as delivery has taken place. Thus a corpus luteum, which, on the third day after delivery, may have a diameter of eight lines, will on the tenth have one of only five. Three months after, there is only a small nucleus, scarcely one line in breadth, and almost colourless.

5th, From what has preceded, it follows, that in woman, it is easy to discover by inspection alone, those cases where the ovule has been expelled spontaneously, from those in which the expulsion has been followed by conception.—*Expérience.*

On the Theory of Menstruation. By G. F. Girdwood, Esq., Surgeon, London.

Mr Girdwood, after showing that menstruation is not peculiar to the human female, remarks:—"That the periodic discharge, whether sanguineous—even to being hemorrhagic—as in women, or with its sanguineous character less distinguishable, from the greater preponderance of the secretion of mucus, as it is in the lower animals, yet is still essentially the same in them all. In all, it is indicative of the maturation of an ovum, as far as, unaided, the female can minister to its development. Now is indicated by this, as it were, the outpouring of the efforts of Nature, her readiness to take the next step in the elaboration of the future being. Hitherto the ovum has been but an hydatid;[1] its capacity for a more elevated condition of entozootic existence is now at its height." * * *

"That the human female is no exception to the general law, that animals during menstruation are fittest for impregnation, was a fact known to Aristotle. He expresses clearly his opinion that some women are capable at *this time only* of conception, not at any other, on account, as he is of opinion, of the womb immediately closing after the cessation of the catamenia.

Και γινομένων ἔτι ἔνιαι συλλαμβάνουσιν ὕστερον δ' οὐ συλλαμβανουσιν, ὅσαις εὐθὺς μετὰ την κάθαρσιν αἱ ὑστεραι συμμύουσιν.[2]

"Probably the idea of the closing of the human uterus was suggested by what really does occur in some of the lower animals. In the sheep, the os uteri is gristly and cartilaginous; and when the animal is not in heat, is hermetically sealed by the close approximation of its edges in the manner of a volute, or rather, like two of the letters c placed one within the other; thus, ᘓ. In such a condition, it is impossible to pass a probe into the uterus. When, however, the sheep is shedding ova, relaxation of the os uteri takes place, and then a probe may be passed without much difficulty."

"Raciborski relates some cases in which impregnation had evidently taken place at the time of menstruation.

"It is undoubtedly either immediately before menstruation, during its flow, or *immediately* after its cessation, that in all animals, in man as well as in the lower mammalia, impregnation takes place. The laws of all civilized countries relative to legitimacy of offspring, or respective of the honour of the sex, are based on such a conviction, and daily experience confirms the opinion. At the end of nine calendar months, or of ten lunar months, from 276 to 280 days, reckoning from her last menstruation, the pregnant woman may expect to be a mother. Every practitioner of midwifery must be familiar with cases illustrative of this fact.

"This regularity in reckoning the period of parturition, I consider, depends on the circumstance that impregnation takes place generally *antecedent* to the appearance of the last menstrual discharge, and the following cases are chosen, out of many that have fallen under my observation, as illustrative of this opinion:—

Case.—"Mrs B—, on the 2d of June, 1830, would have had the catamenia. Her husband was daily expected home from New Holland; on the 31st May he arrived. Mrs B. had eighteen months previously been a mother, and since she had weaned her child had been regular to a day. On the 2d of June *no symptoms of the menstrual discharge appeared*, but by-and-by the usual indications of pregnancy were manifest, and on the 1st March next year, that is to say, at

[1] Burdach, vol. ii. p. 320.

[2] Aristotelis H. A. ex Recens. Im. Bekkeri, Oxon. 1837, tom. iv. fol. 241.

the end of ten calendar months from her last period of menstruation, I attended her in her confinement.

CASE.—"A young unmarried female, devotedly attached to the object of her affections, had her periodic illness every twenty-one days. The discharge had invariably been of the slightest character, scarcely sanguineous, and lasting only for a few hours. A day or two previous to her expected period, her first intercourse with the male sex occurred. On the day expected, the discharge appeared, but not, as ordinarily, in small quantity, but with *unusual profusion*, so much so as to cause her to consult me, for it had rendered her faint and hysterical: it lasted several days. Three weeks passed by; there was no return;—another three weeks, and still no re-appearance of the catamenia. Two months elapsed from the first connexion before an opportunity for its repetition occurred. Two weeks after this second opportunity, I attended this delicate female at the abortion that took place. The embryo had all the appearance of a fœtus between two and three months old. The lover was a gentleman, in whose veracity I can confide. He informed me that the subsequent interviews which he had with his mistress were few in number, and happened fortuitously to be at a period of time equi-distant from the menstrual periods. The lady, for the two years I had the opportunity of becoming acquainted with her history, did not become pregnant again.

CASE.—"A lady, living in Maida Vale, and whom I have four times attended in child-bed, led me to expect her accouchement always four weeks before it really arrived. Reckoning from the last menstrual period, ten calendar months always were nearly over before my services as accoucheur were required by my patient. I am entitled to suppose the case of this lady to be similar to that of Mrs B., already mentioned. Suppose that Mrs B. had enjoyed, like the lady I have just alluded to, the society of her husband, the former, like the latter, would have been a month out of her reckoning. The phenomena in both are alike; they are readily explained. In general, it will be found in pregnant women that the menses, the last time they appeared, were *somewhat unusual* in character. On inquiry, they will be found to have been somewhat *less* than usual, (as is generally the case;) sometimes *more profuse* (as in the case of the delicate female related.) Occasionally *they fail to appear altogether*, and then, (as in the case of the lady in Maida Vale) the parturient woman is a month out of her reckoning, or is supposed to have gone ten months with child.

"Matri longa decem tulerunt fastidia menses."[1]

That conception takes place about, and most probably antecedent to, the time of the periodic discharge, is illustrated, on a great scale, by the nation of the Hebrews. It is the custom amongst Jews, who are scrupulous, for the wife to retire from the society of her husband for a period of thirteen days, reckoning from the first day of being "nyddar"—that is to say, by those who are strict, five days are kept, as prescribed by the Rabbinical law, (for the purpose of making security doubly sure,) in addition to the eight days enforced by the law of Moses. I have it from most excellent authority, from individuals of this nation, for whose probity of conduct and veracity I have the highest respect, that after extensive inquiries made amongst their friends and relations, they find, that no pregnant female, observant of this Rabbinical law, can calculate within fifteen days when to expect her accouchement. In fact, that event generally takes place a fortnight later than expected; and this is accounted for when we learn that the Jewesses reckon their gestation from the day of their purifi-

[1] May not the fact related in the line I quote from Virgil, which has puzzled commentators, and is referred to by the poet, of course, as something marvellous, be explained, by supposing the wife of Pollio to have conceived,—as I have no doubt my patient in Maida Vale did,—immediately antecedent to her menstrual period? The wife of Pollio was, at the time referred to, enjoying, like my patient, the society of her husband, for it was during his Consulship that he became a father; and we know that at least during the fulfilment of that office he was at Rome.

cation, and not, as the Christians, from the time that the catamenia were last evident—that is to say, from the time *when the impregnability of the ovum was last at its acmé*. I was led to this inquiry, from having remarked, that an Israelitish married woman I had for years attended during her confinements, gave birth always later than the period of her reckoning. I may add, as a fact, that in general, among this singular people, no female is found to be a mother before at least *nine calendar months and a half* have elapsed. After marriage, among Christians, of whose continence no suspicion dared be entertained, we daily meet with examples of the female becoming a mother at the end of the ninth calendar month after marriage.

As a further illustration of the theory of menstruation, and still more convincingly to prove that the flow of the menses is to be regarded as indicative of the maturation and elimination of an ovum in the female economy, I was led to examine into those cases in which, from an arrest of development in the accessory parts of generation, *menstruation could not exist*. I refer to cases in which the uterus had been found wanting, and the Fallopian tubes imperforate. In the collection of Dr Boyd of the Marylebone Infirmary, is a preparation, consisting of the parts of generation of a woman in which there is no uterus. The woman was well advanced in years. The ovaries in this preparation have a smooth and polished surface, and present an appearance as unbroken as those of a young female who has never menstruated. This woman died in the workhouse from disease of the lungs; and the peculiarity of structure remained undiscovered till after death. Her history is unknown. However, we may conjecture it to be like to that of another female whose organization was precisely similar, that fell under my own notice some years ago. I allude to the case of Hannah Brown, whose headless and legless trunk, as a matter of medico-legal investigation, came under my observation in the winter of 1836-37. Here, also, there was no uterus; and I was informed by the sister that, although Mrs Brown once or twice experienced a hemorrhage from the vagina, yet that she never had any indication of a periodic discharge.[1] In her, as in Dr Boyd's case, the surface of the ovaries was smooth and regular, and no cicatrix could be detected. The stroma of the ovary was subjected to the microscope, and although abounding in ova, all the ova were found to be in an atrophied condition. . . . .

It is said, that in some cold countries women do not menstruate. Such an extreme opinion requires to be most cautiously received. In the Alpine regions of Patagonia, among savages badly fed, and without the protection of the warm clothing with which, in the opposite arctic regions of the globe, the human being has fortified himself against the rigours of the climate, the discharge may be irregular, and, in its character, less sanguineous than is remarked to be in nations affected by civilization, and thus it may have escaped notice. We have daily under our eyes the cases of delicate females, in whom the suspension of the catamenia takes place for months; and even when it does appear, has its character as slightly sanguineous as is the discharge of the rabbit or the guinea-pig. Recently, under the microscope, the catamenia of these animals were compared with the menstrual fluid of a young woman, who, although she be periodic every three weeks, is so only for an hour or two. In the menstrual fluid I describe, the blood corpuscles were of as limited a number as in those of the animals with which it was compared.

Perhaps there may exist still in the Nomade tribes of Central Asia, or among

[1] It may be recollected, there was much difficulty to make out the identity of the murdered female. The head was not discovered till three weeks after the trunk, and the extremities not for several weeks after that. Meantime, attention was drawn to the fact, that the female, whose trunk was examined, could never have menstruated. Such a peculiarity was likely to be noticed by relatives, and therefore likely to assist in the identification of the woman. The expression of the sister descriptive of the non-existence of the secretion is too poetic to be passed by. When asked by the magistrate if her sister, who had been married, had ever had any children, "No," she replied; "trees that never blossom bear no fruit."

the naked savages of the South Seas, instances of the influence of heat and cold in retarding or rendering more frequent the menstrual cycle.[1] I was in expectation,—though not in Petersburg, where heat, artificially communicated, is as familiar to the dwelling of the artisan as to the palace of the autocrat,—yet in the family of the serf, far removed from the influence of the city and civilization, to find the catamenia retarded during the winter by the influence of the climate. But I understand, from as high an authority as can be adduced on such a subject, that even in the humblest dwelling in the country, there also, artificial means are employed to sustain the temperature of summer in the depths of winter. So warm is his dwelling, that, when within it, the Russian peasant is in the habit of being not simply *in cuerpo*, but of divesting himself of all his external clothing, to his shirt and drawers. To expect any retardation of the catamenia in females fostered in such an artificial climate as must necessarily exist under the circumstances related, would be unreasonable. The young Russian female, in country as in town, has her catamenia as early as in more genial climates. Indeed, it would appear from the tables of Mr Roberton of Manchester, that the habits of luxury so generally spread over society in this country has occasioned, at least in large communities, and warmly heated dwellings, the development of the catamenia at as early a period of age as was hitherto considered as existing only in latitudes near the equator.

It is not improbable that, even with all the artificial warmth we employ during winter, some retardation of the development of ova during the cold months, may be noticed as a general rule. Statistical information on this subject is a desideratum, but it is scarcely possible to obtain it in a community like our own, where so few young women remain long unmarried. One thing that is certain is this, that even although menstruation may be as periodic in cold as in warm weather, the ovum eliminated with it has its capabilities for fructification less developed in winter than in summer.

In the *British Medical Almanack* for 1835, there is the following interesting table, compiled by the ingenious Mr Farr:—

TOWN AND COUNTRY CONCEPTIONS.

	Town.	Country.
January	81	84
February	84	84
March	85	85
April	89	92
May	93	98
June	90	95
July	86	85
August	82	77
September	76	72
October	75	70
November	77	75
December	82	83
	1000	1000

The influence that the warmth and luxurious living of the city exercises on the female economy is made evident in the above table. It is interesting to compare it with the effects resulting from the colder climate and more temperate living of the country. In both lists, the warm months show an increase in the number of conceptions over the cold ones. But it may be remarked, there is a higher maximum and a lower minimum in the country than in the town. The heat of summer and the cold of winter are more evident. This result is

[1] I have tried in the colder districts of Scotland to obtain information on this subject. The hardy disposition of the inhabitants, their dwellings less appropriate to keep out the cold than that of the Russian, led me to make my inquiries there. As yet, I have been unsuccessful in obtaining information on which I can rely.

exactly what might have been theoretically anticipated. In another table Mr Farr states, as follows, the results of his inquiries :—

	Sweden. Illegitimate.	Montpelier.	Paris.	Eminent Writers.
January	78	88	82	70
February	75	96	80	87
March	85	89	76	88
April	90	94	89	100
May	92	91	94	103
June	97	82	90	74
July	96	73	86	80
August	91	72	81	74
September	84	71	77	83
October	63	77	78	41
November	63	83	83	85
December	83	84	84	80

But more extensive, as well as more accurate data, are now at the service of the physiologist, and on examining them, the same influence of increased temperature is evident in the re-production of our species. I allude to the elaborate tables constructed in the office of the Registrar-general, and published by the authority of government.[1]

The total number of births registered in England for the years 1839-40-41, are given quarterly. From these, for examination, I have been advised by Mr Farr to select the years 1840 and 1841 as giving more correct data than 1839. In these tables, unfortunately for my purpose, the gross number of births is given *quarterly*. It has therefore been necessary for me to analyze the sums, reduce the quantities into months, graduate the ratio as it is ascending or descending, and thus obtain a maximum and a minimum as far as possible approximating the truth. Having done so, and retaining only the three primary figures, we have the following result :—

Births.

January	852	July	838
February	889	August	812
March	920	September	787
April	875	October	815
May	864	November	819
June	852	December	824
	Total . .	10,147.	

I am reminded that the registration of the infant being allowed to be made within six weeks of its birth, the numbers registered in each separate month may be taken to indicate the number of births occurring in the preceding month. To find out the number of conceptions in each month, we have, then, but to make each month change places with that which is the second in advance of it. The following table shows the results of this transposition :—

Conceptions.

January	819	July	864
February	824	August	852
March	852	September	838
April	889	October	812
May	920	November	787
June	875	December	815
	Total . .	10,147.	

Various authors have given statistical tables, all of them leading to the con-

[1] Fifth Annual Report of the Registrar-general.

clusion that the impregnability of animals is greater in the warm than in the cold season of the year.

At the commencement of this communication, the object in view was briefly stated. The facts and opinions bearing on the theory of menstruation have now been passed in review. The analogies of this discharge have been traced, and its identity in other animals has been, by its most essential characters, proved. Its character of sanguinity in man has been shown not to be singular; as in other animals the discharge exists with this character impressed on it in as exalted a degree as in the human species. Its *periodicity*, so far from being a quality marvellous, is precisely that which links it with almost all other vital and physical phenomena. Motion is universal; it is around us, within us, and is everywhere subjected to periodicity. Far from this quality of periodicity calling on us to remove menstruation from the category of natural events, it is the feature the most evident, the most prominent, that entitles us to place it there as one of them.—SOUTHWICK CRESCENT, Hyde Park-square, Oct. 1, 1844.—*Lancet*, Dec. 14, 1844.

PRACTICE OF MEDICINE AND PATHOLOGY.

ON THE ACTION OF DIGITALIS, AND ITS USES IN DISEASES OF THE HEART. By WILLIAM MUNK, M.D.

The observations, on which these conclusions are founded, have been upwards of 400 in number, and the inquiries have now extended over a period of more than five years.

The drug was administered strictly *per se* in 184 cases. I mention this circumstance, because I know of no medicine whose effects are more modified by prescriptional combination than digitalis, and hence the discordant statements, as to the effects of this drug, in the works of practical writers.

The influences of the drug, in the one case upon the heart, and in the other upon the kidneys, constitute assuredly its best-marked, if they be not, as I indeed believe, its only properties. The profession, as a body, seem pretty generally to recognise this two-fold action of digitalis, although much difference of opinion exists as to the relative frequency and facility with which such effects may be produced. The pharmacological forms in which the drug is commonly used, are the powder, the infusion, and the tincture; and it is with these exclusively that my trials have been made.

The tincture has uniformly appeared to me to be the form in which digitalis acts with the greatest certainty and effect upon the heart; while, as regards the diuretic influence of the drug, I have derived incomparably the most advantage and satisfaction from the infusion. This, I believe, will be found accordant with the experience of most physicians; and, if borne in mind, will, to a certain extent, assist in reconciling some of the contradictory views entertained by different practitioners, as to the proper and usual action of the drug.

The powder appears to me the least certain and most unmanageable of the preparations of digitalis. I have carefully watched its administration in nearly 40 cases; and, in the majority of instances, it has neither influenced the heart, nor increased the flow of urine. When prescribed alone, it has seemed to me to be next to useless, and in no degree comparable with either the tincture or the infusion. In combination, however, the case is somewhat altered; for, given in the well known pill, with mercury and squills, it constitutes an admirable and efficient diuretic. I have not succeeded, however, by any combination, in concentrating its action in a kindly manner upon the heart. As an efficient and manageable sedative, I consider the powder of digitalis comparatively valueless.

In practice, I have found it necessary to mark distinctly two modes in which the heart is affected by digitalis. The one of these I would, for the sake of dis-

tinction, denominate the *depressive;* the other, the *antispasmodic* action of the drug. Both of these are equally well marked; but, to attain them, very different modes of management become necessary.

As a *depressing agent*, digitalis is called for only when an increase of impulse is a well-marked and abiding symptom; and as this—pericarditis and endocarditis being excepted—occurs only in hypertrophy, either simple or combined with other organic lesions, it is in these alone, that as a depressor of action, it is admissible. Augmented impulse, then, is the symptom, and hypertrophy, as its cause, the pathological condition which should direct our attention to digitalis, and induce us so to administer it as to obtain its depressing influence. For this purpose, it will be best to administer the tincture in tolerably full doses, at intervals of 8, 10, or 12 hours. I have not found that the efficiency of digitalis in this direction can, as a general rule, be augmented by combination.

The *antispasmodic* property of digitalis is that which renders it so peculiarly useful, and extensively applicable a remedy, in cardiac disease. To the term antispasmodic, as applied to digitalis, some objections might be adduced; but it answers well as a general expression. The effects of digitalis as a depressing agent are most satisfactorily and certainly produced when the tincture is given alone; but it is in combination only that its antispasmodic properties can, as a general rule, be obtained. Given in combination with camphor, assafœtida, or galbanum, ammonia, Hoffman's anodyne, or the other drugs classed under the general name of antispasmodics, it seldom fails to quiet, more or less, the tumultuous beatings of an irritable or mobile heart,—provided the impulse be not at all, or not materially, augmented. Thus employed, it will exert the most beneficial influence on palpitation, oppression, and distress in the præcordia, will relieve the hurry of breathing, and calm that irritability of body and of mind so generally witnessed under such circumstances. That this effect is owing to the digitalis, rather than to the medicines with which it is associated, I have repeatedly assured myself, by withdrawing the former and continuing the latter: a loss in the amount of control over the heart has been the general result: and the converse of this has also been proved. The action of digitalis on the heart has been represented by many writers as uncertain, and rarely to be depended upon; but I am fully convinced that, when administered with proper precautions, and in proper cases, its action on the heart may be certainly obtained; and, what is of equal, if not greater importance, maintained with perfect safety.

The circumstances which have appeared to me to present an obstacle to the action of digitalis on the heart, or, on the other hand, to render its administration hazardous, are, plethora, gastric irritation, or inflammation, and certain conditions in the habits of the patient, having reference to positive mental or corporeal activity. Digitalis has generally, I think I might say invariably, proved inoperative in my hands when administered in a plethoric state of the system. Blood-letting, cautiously employed, with other evacuant measures and low diet, constitutes, in more urgent cases, the appropriate means of relief; and although digitalis may become an excellent auxiliary at a later period, when the tension of the vessels has been reduced, it can in no instance be employed with safety or effect as their substitute. Certain states of the gastric and intestinal mucous membrane, especially the former, exert a singular modifying influence on the action of digitalis. To this very important point, attention was first directed by Broussais; and the majority of his statements I am able most fully to confirm.

Posture and quietude, mental as well as corporeal, are circumstances which materially affect the operation of digitalis. When given with the view of reducing the force and frequency of the heart's contractions, the patient should, if possible, maintain the recumbent posture, and avoid all sources of mental excitement. This is more particularly requisite when the full depressing influence of the drug is required, but it is of much less importance when given as an antispasmodic.

The diuretic action of digitalis renders it a peculiarly valuable remedy in

many kinds and stages of cardiac disease. It might, perhaps, be anticipated that this was in a great measure attributable to its acting at the same time in a direct manner upon the heart; but such I conceive to be very rarely the case. All the benefits which result from digitalis, when it operates upon the kidney, are attributable to its mere diuretic action; any effect upon the heart itself is indirect, and owing to the diminution in the mass of the circulating fluid by the draining away of its more watery constituents. Digitalis indeed but seldom operates as a diuretic when its action on the heart is prominently marked; and conversely, it but seldom manifests its action on the heart when free diuresis results from its employment. To this conclusion I was led, at an early stage of my experiments; and I feel much satisfaction in finding, from the Dispensatory of Dr Christison, that this accomplished physician entertains the same view. "According to my experience," says he, "the sedative and diuretic actions do not concur: I even suspect that they are essentially incompatible."

Diuretics become useful in diseases of the heart by drawing off the aqueous portion of the blood, and thus diminishing the quantity, without materially deteriorating the quality of that fluid. In this manner, by lessening the heart's duty, and unloading the morbid tension of the vessels, they relieve palpitation and dyspnœa, and obviate infiltration without materially reducing the strength; while in cases which have proceeded to a greater extent, and are already accompanied with dropsical effusions, they act most beneficially by bringing about their absorption and ultimate elimination through the kidneys. In hypertrophy, the symptoms may be, and indeed frequently are susceptible of material alleviation by a free diuretic action. It is seldom, however, that digitalis is an appropriate remedy; for the conditions of tone which contra-indicate its employment, and prove an obstacle to its efficient action on the kidney, may, as a general rule, be said to exist here in all their intensity.

In dilatation, digitalis will often be found a very appropriate remedy, and will generally operate with more certainty and efficiency than any other diuretic. Here we usually find a weak, unsteady, or intermittent pulse; pallor or lividity of countenance; with cold extremities; and, when dropsical effusions have supervened, a flabbiness of the œdematous parts:—these are precisely the conditions to direct attention to digitalis. Here it will operate with much certainty upon the kidneys; and should the case be one to be benefited by diuretics, in foxglove we find that which is most appropriate. It is in valvular disease, however, that diuretics in general, and digitalis in particular, prove of the greatest utility; under a free discharge of urine, the cough, dyspnœa, and the præcordial load and anxiety subside; the serous effusions also diminish or altogether vanish.

To the administration of digitalis for a protracted period, or to the amount which in some instances is absolutely necessary for the production of its full medicinal action, many practitioners entertain a deeply-rooted objection, on account of the untoward and even fatal results, which are said to follow its exhibition. My own observation leads me to believe, that occurrences of this kind are exceedingly rare, and that the apprehensions which exist as to the use of this medicine are not warranted by what we learn from exact observation. That frightful symptoms do, however, occasionally ensue upon, and that death has in a few instances resulted from the administration of digitalis, recorded cases forbid me to deny; and being aware of this fact, it undoubtedly behoves the practitioner to be on his guard against them.

I am in the habit of prescribing digitalis in the usual doses for a week; and if, within that period, I perceive neither sedative nor diuretic effects, I then invariably desist from its administration. Let these effects, however, be once kindly induced, and the medicine may then be continued with safety for a considerable period. In one instance, I have seen a bad effect follow the use of digitalis where the first consequences of its exhibition were the removal or material alleviation of prominent or distressing cardiac symptoms, whether this had been brought about by its operation as a sedative or as a diuretic.—Abridged from *Guy's Hospital Reports* for October 1844.

The Efficacy of Valerianate of Zinc in some Affections of the Eye, and in Neuralgia. By Dr Fario.

Notwithstanding the interesting nature of this communication, it may be objected, that its title is calculated to mislead. The author insists, in a way quite peculiar, on the employment of the Valerianate of Zinc in neuralgic affections; and as regards its application to diseases of the eye, he confines himself to a few dogmatic precepts, but furnishes us with no clinical demonstration. Nevertheless, this slight fault is sufficiently atoned for by the abundance of his facts, and the excellent spirit in which they are appreciated.

The valerianate of zinc,—a really useful agent in certain cases,—has of late been so praised beyond all measure, that for the sake of the medicine itself, it was high time that its pretended miraculous powers should be submitted to the test of impartial experiment. Let us congratulate ourselves that the corrective to its extravagant laudation, has come from Italy, where the so-called panacea was first announced; and if our belief in its virtues has been somewhat too high, let us not reject it altogether, because in the place of its birth, there are still some who are incredulous regarding its powers. The following is a summary of the facts observed by Dr Fario, whilst administering this salt in similar cases and in doses similar to those in which it was employed by M. Cerulli, one of its first advocates.

Case 1. A girl, aged fifteen, of delicate constitution, was seized with amenorrhœa, in consequence of fright. One day, after having been exposed to a cold wind, she felt a sensation as if something had passed through the left suborbital region, from side to side. This was succeeded by pain in the globe of the eye, and the corresponding temple and cheek. These attacks soon became frequent. The menses reappeared, but brought no relief to the symptoms. Dr Fario saw the patient on the tenth day. He ordered a grain and a half of the valerianate of zinc to be taken daily, in the form of pills. At the end of a week, there was neither any amendment nor physiological effect; the dose was now increased to two, three, and four grains daily, recourse being at the same time had to friction over the eye-brows with valerianated ointment. At the end of twenty-six days 116 grains of the salt had been consumed, with no other effect than a very slight melioration of the symptoms; oxide of bismuth, with extract of aconite, were now substituted, with more happy effects. Dr Fario, indeed, does not hesitate to attribute the cure to the latter medicines.

Case 2. A person affected with amaurosis, and who was under treatment by electricity, was seized with violent neuralgic pains, affecting the whole of one side of the head. He had suffered from these formerly. The use of the electricity was immediately suspended; four grains of the valerianate of zinc internally, and frictions with the ointment of it were ordered. After forty grains had been administered without the slightest amendment, the remedy was discontinued. The patient had formerly experienced benefit from the infusion of arnica. It was again prescribed; and under its use the cure was complete in fifteen days.

Case 3. Two sisters had a relapse of neuralgia, affecting the right eye in the one, the left eye in the other, with much photophobia, and a feeling of pressure, as if a nail had been driven through the temple. They took two grains of the valerianate of zinc, which was at first gradually increased to four grains daily; and used the ointment. The paroxysms assuming a periodic type, valerianate of quinine was also ordered, but with no better effect. After sixty grains of the zinc had been taken, Dr Fario thought it prudent to desist. One patient was now ordered nitrate of bismuth, and subsequently ammoniuret of copper, with extract of aconite. She is still taking the latter with decided benefit. The other was also ordered nitrate of bismuth, and subsequently nitrate of silver, but as yet without any advantage.

Case 4. A woman, at the critical period of life, experienced neuralgic pains

over the whole head, but more especially in the right eye. After having taken more than two hundred of the pills of Vallet, and been submitted to purgation without benefit, M. Cerulli ordered the valerianate of zinc. She took in all one drachm, without the slightest melioration in her symptoms.

But the following case tells even more decidedly against the medicine. It was communicated to the author by a friend.

CASE 5. A young man, born of healthy parents, and himself healthy, was, at the age of eighteen, without any known cause, attacked with epilepsy. At the end of a year he had another attack, followed by others in more rapid succession. At the age of 22, he had already undergone a variety of treatment. He now went to Florence, where he consulted Dr Buffalini, who advised the use of the valerianate of zinc, in the dose of a sixth of a grain daily, the quantity to be gradually increased to two or three grains, or even more; he at the same time cautioned him to suspend the use of the remedy as soon as slowness of the pulse, or diminution of the temperature of the bowels, indicated a depressing action on the vital powers. The patient left Florence, taking with him two drachms of the salt, a quantity sufficient, it was stated, to complete the cure; he followed the prescribed treatment with the most exact scrupulosity. But experiencing no sensible effects from the prescribed doses, he commenced, at first slowly, afterwards more rapidly, to increase the doses, so that at last he reached the point of taking 30 grains (Austrian) daily; and in the space of fifty days, he had taken, besides the two drachms originally carried with him, 600 *grains* of the valerianate of zinc! Notwithstanding, he had an epileptic attack at a shorter interval than usual, and three others in rapid succession. He now abandoned the use of the valerianate, without having experienced from it the slightest effect, either upon the pulse, or the general temperature.

In terminating his work, however, Dr Fario acknowledges that in two cases he has derived benefit from the valerianate of zinc; but in these he prescribed it in much larger doses than are usually given. In the one, he cured neuralgic pains of the scalp and eye with a scruple of the salt taken in two days. In the other, 18 grains in two days procured relief.

The author particularly admits the utility of the valerianate used externally. He uses it under the form of a collyrium in the proportion of 2 or 4 grains to two ounces of distilled water, in blenorrhagic affections of the eyelids, ulcerations, and recent spots on the cornea, as well as in chronic keratitis;—in all cases, indeed, in which the use of a slightly astringent and antiphlogistic remedy is indicated, and where, consequently, the use of the sulphate of zinc or cadmium would be premature. From analogy, he believes it might be useful in urethral blenorrhagia. As to the valerianated ointment, its smell is so offensive, that few patients can continue it.

We consider that Dr Fario has rendered a service, in combating the exaggerations of those who have so highly lauded this new antispasmodic. The last objection he urges against it, is its high price: but those who know in what way the reputation of medicines is established amongst a certain class, will feel inclined to ask, if this *disadvantage* (?) which the valerianate possesses relatively to other agents of the same class, has not been the real principal cause of its brilliant success!—*Memoriali della Medicina Contemporanea;* as quoted and commented on in *Gazette Médicale de Paris*, 1844.

PREPARATION AND MEDICINAL EMPLOYMENT OF THE VALERIANATE OF ZINC. BY DR F. DEVAY of Lyons.

The Valerianate of Zinc, first proposed by Prince Louis Lucien Bonaparte, as a medicine of considerable value, has for some years occupied an important place among the medicines of Italian physicians.[1] Dr F. Devay, physician

[1] *Vide* the preceding article; and also the MONTHLY JOURNAL for May 1844, where will be found a paper, by Muratori and Cerulli, on the preparation and therapeutic use of this remedy.

to the Hôtel Dieu of Lyons, has recently made numerous experiments with this substance, the remarkable results of which have excited the attention of French practitioners to a high degree; and the valerianate of zinc has all at once got into great favour, so much so, that for some weeks this salt is constantly being prepared by the principal pharmaceutists of Paris.

Under these circumstances, a review of what has been published relating to the valerianate of zinc will undoubtedly interest many of our readers. Valerianic acid, discovered by Planche, was isolated by Grote, and investigated by Penz. It pre-exists in the root of valerian, but it may likewise be readily produced by acting with caustic potash on potatoe fusel oil. It is a volatile fat acid, colourless, soluble in every proportion in alcohol and æther, and soluble in about 30 times its weight of water. To obtain it, the valerian root is distilled until the product has no longer an acid reaction; the essential oil which floats on the surface of the distilled water is separated, and the acid which it retains removed by shaking it with solution of caustic potash; the distilled water is saturated with carbonate of potash, the liquids mixed, and then evaporated to dryness at a very gentle heat; the residue, introduced into a retort and distilled with a suitable proportion of dilute sulphuric acid, affords a saturated aqueous solution of valerianic acid, on which some pure valerianic acid floats. Two lbs. of valerian root afford about 2 grms. of acid.

To convert it into valerianate of zinc, it is saturated with the carbonate, or still better with perfectly pure oxide of zinc recently precipitated. The action is assisted by heat, the hot solution filtered and allowed to crystalliize on a gently heated sand-bath. The crystals form light nacreous laminæ of a brilliant white colour. According to M. Duclos, cold water dissolves one-fiftieth of its weight, and boiling water one-fortieth. It is scarcely soluble in æther, but 100 parts of boiling alcohol dissolve 6 parts.

Valerianate of zinc was recommended as an antispasmodic, and the experiments of Dr Devay were undertaken to determine its value as such. The results which he obtained have been remarkable from the quickness and completeness of the cures. The physiological effects are scarcely more decided than those of the valerian or of the zinc taken separately. A dose of 2 grs., which is sufficient to subdue an attack of neuralgia or moderate the paroxysm of a violent megrim, produces in the healthy state but a little cephalalgia, slight vertigo, and a little confusion of hearing. It is particularly in the case of tic-douloureux, which cannot be subdued by the ordinary antispasmodics, that Dr Devay has confirmed the efficacy of the valerianate of zinc; he has likewise applied it with success to the treatment of some other analogous affections, such as nervous headach, violent megrim, satyriasis, &c.

The following are the different forms in which he prescribes this remedy:—

Pills.—Valerianate of zinc, ... 9 grs.
Gum-tragacanth, ... 30 grs.

Make into 12 pills, one to be taken in the morning and one in the evening.

Powder.—Pulverized valerianate of zinc, . . . 9 grs.
... sugar. . . . . 45 grs.

Mix and divide into 24 packets, of which from 1 to 4 should be given daily according to circumstances.

Draught.—Distilled water, . . . 5 drms. 20 drops.
Valerianate of zinc, . . 1 gr.
Simple syrup, . . . 1 oz.

A spoonful every half-hour.—*Journ. de Pharm.* for August 1844; and *Chemical Gazette*, 1st Nov. 1844.

SURGERY.

On Relieving the Testicle, in cases of Parenchymatous Orchitis, by a Division of the Tunica Albuginea. By M. Vidal.

M. Vidal (de Cassis) has published in the *Annales de la Chirurgie*, &c., several cases of Orchitis, healed by a method which has caused some sensation in the surgical world.

The treatment consists in making an incision in the tunica albuginea of the testicle, by means of which the inflamed gland is relieved from the strangulation to which it is subjected. In recommending this operative process, M. Vidal has felt the necessity of stating that it is only applicable to cases of parenchymatous orchitis, rare it is true, but which, notwithstanding, are sometimes met with, in subjects between the ages of nineteen and twenty-four, under the influence of certain pathological circumstances. Suppuration and loss of the testicle are, he says, the results of this species of orchitis, when left to itself, or the ordinary means of treatment. But M. V. states, that no case of suppuration has occurred in the patients treated in the manner above recommended, and whose condition he has watched for a year. We subjoin a few of the cases cited in proof of the advantage of this method.

Case 1. A young man, aged 20, was admitted into hospital, on the 27th June, with orchitis of the right side; the disease was of six days standing, and had appeared on the cessation of a blenorrhagia. There was a hard globular tumour, in front of the epidydimis, formed by the testicle, and of nearly the size of the latter organ in its healthy state. The surface of the scrotum was of an erysipelatous red. The pain, at first slight, had become more and more severe, shooting along the spermatic cord to the loins, and down the corresponding thigh to the ham. *Prescription.*—Poultice to the tumour, low diet, and confinement to bed. 30*th*. Pain more severe, want of sleep, nausea, vomiting, colic, great distress. On the first July M. V. made an incision, layer by layer, to the extent of nine lines. The division of the peri-testis was easily accomplished, displaying the bare testicle. There was no serosity within the tunica vaginalis. At four in the afternoon the patient was in a most satisfactory state; pain gone, and not the slightest general re-action; had a quiet sleep during the night. From this period the convalescence was complete; a union took place between the testicle and the folds of the tunica vaginalis at the point of division, so that the testicle adhered to the parts in front of it.

Case 2. The subject of the second case was a lad aged 19, who, shortly before relieved of a blenorrhagia, had, after a debauch, been seized with the symptoms of parenchymatous orchitis. On the 27th July, three days after his admission into the hospital, the pain was insupportable; no sleep; pulse quick; great thirst; nausea, but no vomiting; sharp colicky pains in the left iliac fossa, spreading to the lumbar region. M. Vidal having divided the tunica albuginea, the symptoms disappeared as rapidly as in the former case. Nothing occurred to prevent the progress of resolution; after the cessation of the orchitis, the blenorrhagia assumed its purulent character.

Case 3. M. Vidal also cites the case of a young man affected with deep inflammation of the testicle, and in whom division of the tunica albuginea was performed by M. Cullerier, with the like happy results. There is a peculiarity in this case, however, which we cannot pass over in silence. In the two cases given by M. Vidal, it must have been observed, that previous to the operation of division, no antiphlogistic remedies had been had recourse to. This might be adduced as an argument against division, for we naturally enquire whether, in such cases, before proceeding to the operation, the whole series of antiphlogistic remedies should not first have been exhausted; but the case of M. Cullerier, as far as an insulated fact is of value, is an answer to the question. In the patient treated by this surgeon, the symptoms increased in intensity after the use of bleeding, poultices, and purgatives: The pain extended even along the cord; and the

application of twenty-five leeches was necessary. General bleeding was again had recourse to without the slightest advantage: division alone appeared to check the disease.

We shall do nothing in the way of urging the employment of this means of cure, which has already been successfully had recourse to by M. Vidal, not less than fifteen times. It is sufficient to say, as a means of appreciating the value of this method of cure, that for many years we have followed the course of M. Cullerier, and have witnessed an immense number of cases of blenorrhagic orchitis. But we do not remember having seen this disease destroying the organ, in more than two or three individuals. Its harmlessness, then, in the immense majority of cases, diminishes the importance of the operation proposed. We shall shortly return to the subject.—*Journal de Médecine et de Chirurgie Pratiques*, October 1844.

MIDWIFERY.

On the Sex of the Child, as a Cause of Difficulty and Danger in Human Parturition. By J. Y. Simpson, M.D. Edin., F.R.S.E., Professor of Midwifery in the University of Edinburgh.

In an able and elaborate memoir which Professor Simpson has published on the above subject in the *Edinburgh Medical and Surgical Journal*, he arrives at an important onclusion which we shall give best in his own words:—

"*The official returns of the mortality of England and Wales, have only, as yet, been collected, for somewhat upwards of seven years, viz. from* 1st *July* 1837, *to the present date. If the calculations we have given are accordant with truth, (and we believe them to be much within it), there have been lost in Great Britain during that limited period, as a consequence of the slightly larger size of the male than of the female head at birth, about* 50,000 *lives, including those of about* 46,000 *or* 47,000 *infants, and of between* 3000 *and* 4000 *mothers who have died in childbed.*"

The train of reasoning and statistics by which Dr Simpson arrives at the preceding interesting deduction, is too close and minute for us to be able, with our limited space, to follow it out at length; but we may notice some of the more important parts of the propositions which the author has laid down.

The data which have formed the basis of his calculations have been derived principally from the extensive returns of the Dublin Lying-in Hospital, during the masterships of Drs Collins and Clarke, although he has not neglected such other statistics as may be depended upon.

Dr Simpson first demonstrates, that the dangers and difficulties of parturition are greater to the *mother* in male than female births, and does so by producing statistical proof;—*first*, That of the mothers who die under parturition, and its immediate consequences, a much larger proportion have given birth to male than female children; and *second*, That among laborious and complex labours, the child is much oftener male than female. In illustration of these two propositions, we shall quote two of his tables, derived from Dr Collins' returns, of 16,414 women delivered in the Dublin Lying-in Hospital during his mastership:—

I.—Proportion of Maternal Deaths to the Sex of the Child.

Total Maternal Deaths.	In these the Sex of the Child		Or in proportion of Male to Female, as
	Male.	Female.	
154	105	49	214 to 100.

II—PROPORTION OF COMPLICATIONS IN LABOUR, IN RATIO TO THE SEX OF THE CHILD.

Nature of Complication.	Total Cases.	No. of Male Children.	No. of Female Children.	Propor. of Males to Females.
Tedious Labours,	109	65	54	148 to 100
Convulsions,	28	17	11	153 to 100
Puerperal Fever,	88	54	34	161 to 100
Rupture of Uterus,	34	23	11	207 to 100
Post. Partur. Hem.,	44	31	13	240 to 100
Forcep Cases,	24	16	8	200 to 100
Crotchet Cases,	74	50	24	208 to 100
Total,	401	255	155	165 to 100

The author then proceeds to prove that "the dangers and accidents from parturition, and its results, are greater also to the *child* in male than in female births." This is illustrated by the following facts:—That a larger proportion of still-born children, whose mothers die from labour, or its consequences, are male than female; and, on the contrary, of those that are born alive, a greater number are female than male. *Secondly*, The proportion of still-born male children is larger than of female, in the proportion of about 130 males to 100 females. *Thirdly*, "Of the children that die during the actual progress of parturition, the number of males is much greater than that of females." The data required in proof of this are very difficult to be obtained, and can only be accurately ascertained by a series of minute observations on the stethoscope. In the absence of such, however, Dr Simpson has subtracted from the 1121 still-born children mentioned in Dr Collins' returns 527, which were putrid, and this will leave 594, who died during parturition, or only shortly before; of these, the proportion of males to females is 151 to 100, a proportion which may be increased by an unit, if we exclude 62 premature still-born children who were not putrid. *Fourthly*, More males than females suffer from the morbid states and injuries consequent on parturition. Of these, none has been more investigated lately than the *cephalomatoma neonatorum*, but,—Burchard excepted,—no author has given any statistics regarding the sex of the infants chiefly affected with it. According to him the relative frequency of the affection in the two sexes stands thus:—

Male Children.	Female Children.	Proportion of Males to Females.
34	9	377 to 100

In Dr Collins' report, the proportion of males to females who died within the first half-hour after birth, and therefore probably perished from injuries resulting from the labour, is 1600 to 100. *Fifthly*, More male than female children die in the earliest periods of infancy; and the disproportion between the mortality of the two sexes gradually diminishes from birth onwards, till some time subsequently to it.

This *fifth* proposition, the author remarks, follows as almost a necessary corollary from those that have preceded it. If, in consequence of the pressure and greater injuries to which male children are subjected during birth, more male than female infants perish during labour; and if, again, among those born alive, more males than females are found to suffer, under such morbid states as are the immediate results of parturition, it might justly be *a priori* expected, that the same causes which produced these results during delivery, and immediately after it, would so far *continue* to affect the male constitution, for some time subsequently, as to predispose it more to disease, and likewise render the diseases which did occur in it, more dangerous and fatal in their course than those that affect the female. Further, if this greater liability to morbid action, and its greater intensity and fatality in the male, as compared with the female infant, were the consequence of the male being subjected to greater physical injuries at the time

of parturition, the pathological characteristics in question should be observed to diminish more and more in the male system from the moment of birth onwards, because the morbific effects, resulting from any cause or causes operating during birth, would thus progressively diminish, and ultimately pass away. At last, therefore, at some date in early infantile life, the mortality among male and female children, though very different at first, should become nearly or entirely equal. And such, indeed, is the actual state of facts, when the mortality during infancy is investigated upon a large scale. Thus, in his observations regarding the "influence of sexes" upon mortality, Quetelet, in his elaborate *Treatise on Man*, remarks, as a matter of statistics, that among male, as compared with female children, "the ratio of deaths before [during] birth is as 3 males to 2 females; during the first two months after birth the ratio is 4 to 3; during the third, fourth, and fifth months, as 5 to 4; and (he adds) after the eighth or tenth month, a difference scarcely exists."

In evidence of the above-mentioned proposition, we subjoin the following very illustrative tables, which Dr Simpson has constructed from data, Dr Collins' report, and the Registrar's returns for England and Wales.

Number of Male and Female Children Dying in the Dublin Hospital at Different Periods after Birth.

Period of Death.	Males.	Females.	Proportion of Males to Females.	Ratio of Excess of Male Mortality.
Within first half hour	16	1	1600 to 100	1500
Within first hour	19	2	950 to 100	850
Within first 6 hours	29	7	414 to 100	314
Within first 12 hours	34	15	226 to 100	126
Within first 18 hours	36	19	191 to 100	91
Within first day	49	28	175 to 100	75
Within first week	80	59	136 to 100	36

Proportion of Male and Female Children Dying at Different Ages in England and Wales.

Ages.	Proportion of Males to Females.	Ratio of Excess of Male Mortality.
0 to 1 month	137 to 100	37
1 to 2 months	131 to 100	31
2 to 3 months	124 to 100	24
3 to 6 months	122 to 100	22
6 to 9 months	110 to 100	10
9 to 12 months	105 to 100	5
1 to 2 years	100 to 100	0
2 to 5 years	101 to 100	1

After having settled the greater maternal and infantile danger and fatality accompanying the birth of male children, Dr Simpson goes on to consider its causes,—and, first establishing the fact, in opposition to Quetelet, Clarke, &c., that males are *not* more liable than females, during their intra-uterine life, to disease, and debility, and death, by showing the proportion of the two sexes to be equal in still-born *putrid* children, and in premature births, he produces tables showing the measurements of the head in new-born male and female children—the result of these being that the *transverse diameter* of the male head is about one-eighth of an inch greater than that of the female.

To this slightly greater size of the male head, Dr Simpson refers the greater number of complications and casualties accompanying male births, and enumerates and illustrates at length the following reasons for his doing so:—

"1st, For the very marked differences existing between the difficulties and perils of male as compared with female births, there is no other traceable cause in the mechanism of parturition, except the larger size of the head of the male child."

"2d. An increase in the effects may be shown to be connected with an increase in the alleged cause." This is distinctly demonstrated in the following table.

Nature of the Labour and Complication.	Total Cases.	No. of Male Children.	No. of Female Children.	Proportion of Males and Females.	Ratio of Excess of Males.
Labours generally	16.654	8548	8069	106 to 100	6
Tedious labours	109	65	44	148 — 100	48
Forceps cases	24	16	8	200 — 100	100
Crotchet cases	74	50	24	208 — 100	108

"3d. A diminution of the cause leads to a diminution in the effects ascribed to it." This is amply illustrated by the proportion of still-born males over females being considerably less in premature births than those at the full time—also by the proportion of deaths, within any definite number of days after birth, of males over females being smaller in those born prematurely, than those at the full time,—and lastly by the smaller proportion of male twins lost than female.

"4th, In those morbid complications in labour in which the cause is in abeyance, the effect is also absent." Such are the complications of the third stage of labour, which are independent of even the presence of the infant, and which Dr S. shows to occur as frequently after the birth of female as of male infants.

5th, Similar effects upon the mother and child are produced by other causes, similar in their character and amount." Such a cause is the greater obstruction to the passage of the child, in first than in subsequent labours, in consequence of the maternal passages being less dilatable than afterwards,—and hence more casualties and complications occur to both mother and children in first than in subsequent labours:—The following table demonstrates this:—

Complication.	Total Cases.	First Pregnancies.	Proportion of First Pregnancies.
Convulsions	30	29	96 in 100
Forceps cases	24	18	75 in 100
Crotchet cases	75	51	68 in 100
Tedious labours	109	75	69 in 100
Puerperal fever	88	44	50 in 100
Maternal deaths	164	86	53 in 100
Still births, not putrid	594	260	45 in 100
Infantile deaths during first 10 days; born single and at full time	170	75	44 in 100

6th, "The greater size of the male than of the female infants' head is sufficient in itself to explain the greater dangers attendant upon male than female birth, when we consider it in relation to its absolute and cumulative effects."

The whole process of labour is rendered the more tedious and difficult in consequence of the size of the head of the fœtus being nearly proportioned to the size of the passages of the mother—the effects then upon this whole process must be considerable, by even such an inconsiderable difference as exists between the dimensions of the head of the male and female at birth, supposing the capacity of the mother's passages and pelvis to be, *cæteris paribus*, the same. This the author has further proved, by adducing statistical evidence that the average duration of labour is longer with male than with female children. The following table will show the absolute and average duration of the labours with male and female children, in 427 tedious cases, which are entered in the register of the Edinburgh Lying-in Hospital, from 1836 to 1841, inclusive.

Labours.	Absolute Duration of the whole Cases.		Average Duration of each Labour.	
	Hours.	Minutes.	Hours	Minutes.
With Male Children, (249 in number,)	2646	33	10	38
With Female Children, (178 in number,)	1702	29	9	34
Average greater length of the Male birth, .			1	4

"It will probably," the author observes, "be allowed that the principal, or indeed sole obstacle, which the mind has to contend with, in allowing the very small size of the male over the female infants' head, to be the cause of the remarkable differences which we have traced between the results of the male and female births, consist in the difficulty of at first supposing so slight an apparent cause to be the agent by which such remarkable consequences are brought about. But in considering this and the analogous questions, it must be held in recollection, that in all processes, whether vital or physical, in which, as in parturition, an established relation of mechanical conditions is required, any disturbance in these conditions, however small and trifling in itself, will ultimately, and when followed out through numerous and extended series of observations, be found to lead to results, the magnitude of which could scarcely have been previously surmised. These results may not be appreciable when we confine ourselves to the study of the agency in an individual case, or in a small number of cases merely, but they become more and more marked in proportion as the number of our instances become more and more extensive. The effects cannot be distinctly seen when we look for them in a limited series of data, but they may be evoked with all the force of a mathematical demonstration, when we prosecute our calculations for them among large and accumulated masses of observations. From any study, however minute and accurate, of a limited number of cases of labour, no man would probably feel himself entitled to conclude that male are in any notable degree more difficult and dangerous than female births; but this, as we have seen, becomes a demonstrable and strongly marked fact, when we direct our inquiries after the truth of it into the records of hundreds or thousands of carefully reported observations."—Abridged from the *Edinburgh Med. and Surg. Journal*, October 1844.

CHEMISTRY AND MATERIA MEDICA.

"Poudre Metallique" for Stopping Teeth.

This is a secret preparation sold in Paris for stopping teeth. It is surrounded by mercury, which is pressed away previous to application, when ammonia is disengaged, and the residue hardens to a solid metal. It appears to be an amalgam of silver and ammonia.—*Chemical Gazette*, Oct. 15, 1844.

Gangee's Tooth Balsam for Filling Hollow Teeth.

The following is the composition of the balsam:—2 oz. of mastic are dissolved in 3 oz. of absolute alcohol, the solution poured off from the sediment, and then 9 oz. of dry balsam of Tolu dissolved in it with the assistance of a little heat. It is allowed to stand for some time in a warm place, and the balsam then distributed into small wide-mouthed bottles. It is applied by means of cotton.—*Buchn. Repert.*, vol. xxxiii. p. 213, and *Chemical Gazette*, 15th October 1844.

VIENNA CEMENT FOR THE TEETH.

M. von Wirth first had the idea of stopping hollow teeth with asbestos, which had been previously immersed in tooth balsam. This balsam has been successfully imitated by Dr Ostermeyer of Munich. It is a re-solution of West India copal in absolute alcohol, to which some Ol. Menth. piper. has been added. This balsam is mixed with finely divided soft asbestos. When the cement is conveyed into the cavity of the tooth, which has been previously well-moistened by means of a brush, with a tincture of guaiacum and myrrh, it hardens to a mass on the evaporation of the alcohol, which adheres so firmly that it does not require renewing for several weeks.—*Buchn. Repert.*, xxxiii. p. 213, and *Chemical Gazette*, 16th December 1844.

NEW CEMENT FOR THE TEETH. BY DR OSTERMEYER.

By imitating as much as possible the principles constituting the enamel of teeth, Dr Ostermeyer has succeeded in obtaining a combination which, at first soft, gradually hardens when it has been introduced into the cavity of carious teeth; so that hollow teeth thus filled, are rendered as efficient for the purposes of mastication as sound teeth.

This compound is prepared in the following manner:—13 parts of pure and finely powdered caustic lime are rapidly mixed with 12 parts of anhydrous phosphoric acid; a sufficient quantity of this powder, which has become moist during the mixing, is introduced into the cavity of the tooth previously dried by means of blotting-paper; it is then pressed and modelled on the surface.

The mixed powder is gradually changed into phosphate of lime. As soon as it returns to the dry state, the greater proportion of the phosphoric acid has already entered into combination with the lime, and if not applied previous to this, it is no longer fit, and should be rejected as useless. The time during which this mixture can be applied is at the utmost from one to two minutes.

Experience has already shown that this cement becomes very solid and supports perfectly the efforts of mastication; it now remains to be seen, whether the duration of the compound will answer to the other advantages it presents. —*Chemical Gazette*, 1st Nov. 1844.

PREPARATION OF IODIC ACID. BY M. GROSOURDY.

M. Grosourdy recommends mixing iodine with a solution of chloride of barium, and passing chlorine into it until the whole of the iodine is converted into iodate of barytes, which is then decomposed with sulphuric acid.—*Journ. de Chim. Méd.*, 1843, p. 373; and *Chemical Gazette*.

CONFERVÆ CONTAINING IODINE.

The Confervæ found in many thermal springs, mostly species of *Anabaina*, are used empirically as external applications to *goître*, enlarged glands, &c. Henry has examined the Confervæ in the springs of Vichy, Neris, and Vaux, and found small quantities of an alkaline iodide in each.—*Pharm. Cent. Blatt.* for July 1844; and *Chemical Gazette*, 15th October 1844.

A TEST FOR BILE.

M. Pettenkoffer, a German chemist, has discovered a test for the presence of bile. It consists in adding to the fluid supposed to contain bile, concentrated sulphuric acid, until it becomes hot, and then dropping it into a solution of sugar (syrup); the presence of bile is manifested by the mixture becoming of a deep pink or red colour, varying in intensity with the amount present.—*Lancet*, October 5, 1844; from a *German Journal*.

HOW TO PRESERVE PILLS OF EXTRACT OF ALOES.

Extract of aloes readily absorbs moisture from the atmosphere, which renders it difficult to preserve in the form of pills. This inconvenience may be perfectly avoided, according to M. Rottscher, by adding a fourth part of carbonate of magnesia.—*Archiv. der Pharm.*, xxvii. p. 335.

PART FOURTH.

MEDICAL NEWS.

BUST OF THE LATE DR ABERCROMBIE.

The professional friends of the late Dr Abercrombie, entertaining a strong desire to express by some public memorial the respect and affection in which he was held as a physician, a philosopher, and a man, by the whole Medical Profession, requested the following committee to determine in what manner these wishes might be best carried into effect.

Robert Renton, M.D., President of the Royal College of Physicians,
James Simson, M.D., President of the Royal College of Surgeons.
Professor Christison.
Professor Syme.
Professor Traill.
Sir William Newbigging.
Dr Maclagan.
Henry Marshall, Esq., Deputy Inspector of Army Hospitals.
Alex. Cockburn, Esq., Surgeon, R.N.
George Smyttan, M.D., H.E.I.C.S.

The Committee, having met on the 25th November, resolved,—

1*st*, That the wishes of Dr Abercrombie's professional friends would be best fulfilled by placing in some appropriate public situation—to be afterwards fixed upon by the subscribers—a Marble Bust of their deceased friend, to be executed by Mr Steele, who is fortunately in possession of the necessary materials for producing an accurate likeness.

2*d*, That to carry out this object subscriptions shall be immediately commenced, and that the Medical Profession in Scotland be invited to contribute.

3*d*, That Dr Renton, 26 Howe Street, be appointed *Treasurer*, and Dr Simson, 10 Hope Street, *Secretary*.

We are happy to understand that a very considerable sum has already been collected. As it is desirable that the lists should be soon closed, we hope that those who intend to contribute will do so at once.

LINCOLNSHIRE AND CAMBRIDGESHIRE BONE-SETTERS.

To the Editor of the Provincial Medical and Surgical Journal.

Sir,—For half a century or more Lincolnshire and Cambridgeshire have been the ample and lucrative field for the operations of a family of bone-setters, who equal in notoriety their brethren of the North, and have, for an indefinite period, diverted from the pockets of our ill-remunerated surgeons, that remuneration which is deemed most profitable. In a court of justice, even, such has been the prejudice of the magistrates, or rather their appreciation of the surgical talent of this district, that the evidence of a bone-setter has been admitted side by side with that of the regular practitioner. The probable income of these bone-setters exceeds that of the general average of the regularly educated. Some high-minded surgeons have constantly refused to meet a bone-setter. What has been the consequence? Their less scrupulous brethren have directly or indirectly consulted with the empiric, and, like children of a generation more shrewd than the children of science, act upon the principle of—

"Get money, aye, get money still,
Let virtue follow if she will."

Uniformity of education, equal privilege in practice throughout the empire, and the adoption of the representative system in our councils and governing bodies, are great principles which every medical reformer must advocate; but, as Dr Robertson shrewdly observed at the Northampton meeting, all those great desiderata are secondary to the *self-reform* of the profession. The fact is, the hands of those who sanction irregular practice are not clean enough to come before Parliament with petitions for protection or redress of grievances.

WISBEACH, October 31, 1844. WM. ENGLAND, M.D.

"A MEMBER OF THE OBSTETRICAL DEPARTMENT OF QUEEN'S COLLEGE, EDINBURGH."

The following letter has been circulated extensively in Hastings within the last ten days or a fortnight; and as it is a printed and public document, we cannot suppose there is any impropriety in our republishing it, and making it still more notorious. When its author printed it, he of course did not intend that it should remain unread; and he will therefore be indebted to us for making it still better known than it is. In delicacy to a juvenile brother, however, we only give the initials.

"C—— B——, M.D., Member of the Royal College of Surgeons of England, Licentiate of the Worshipful Society of Apothecaries, London, Member of the Royal Medical and Hunterian Medical Societies, and of the OBSTETRICAL DEPARTMENT OF QUEEN'S COLLEGE,[1] Edinburgh, and formerly House-Surgeon to the Edinburgh Royal Infirmary, (?) in selecting Hastings as his future residence, for the purpose of practising as a Surgeon, begs to submit to the inspection of the Nobility, Clergy, Gentry, and the Public in general, the following testimonials of his professional attainments."

Whereupon follow a number of testimonials, mostly from Edinburgh teachers, all declaring what a very clever young man Dr C—— B—— is. The professors (extra-academicals, we think, every one) have much satisfaction, or much pleasure, or great pleasure, in bearing testimony to the talents, zeal, assiduity, and success with which C—— B——, M.D., prosecuted his studies. From these same certificates we learn that C—— B——, M.D., during the term of his pupilage, gained a medal in the surgical class, the first prize in the materia medica class, the prize given annually in the class on the practice of physic, and the first medal in the midwifery class. We farther learn, that the same C—— B——, M.D., during the session 1843–44, wrote his thesis "upon the general nature and treatment of scrofulous disorders," "which displayed an unusual knowledge of those dangerous maladies;" and by a foot-note to the title of the thesis—the foot-note being evidently added by C—— B——, M.D., for the edification of all whom it may concern—"that consumption is one of the worst forms of scrofula." The circular winds up with an "N.B. Dr B—— will give gratuitous advice on any medical or surgical case, to the poor of the town and neighbourhood, between the hours of 9 and 11 A.M., every Monday and Friday, at his present residence, No. 13, Hill Street."

We make no comment upon this circular: we can only regret that things have come to this pass with the members of the medical profession, that they are compelled to resort to such means for obtaining notoriety. One thing, however, we do feel called upon to object to, and that is, the parade of gratuitous advice to the poor on Monday and Friday morning. Dr B—— may certainly settle himself where he pleases, but he has no right to take the bread out of honest men's mouths, by offering that for nothing by which they live."—*London Med. Gazette*, Dec. 13, 1844.

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[1] Queen's College does not now exist: its short and chequered history may be gleaned from the first volume of the MONTHLY JOURNAL.

BOOKS RECEIVED.

1. Principles of Forensic Medicine. By William Guy, M.B. Cantab., Professor of Forensic Medicine in King's College, London, &c. Part III.

   This Part concludes Dr Guy's volume.

2. Facts and Observations in Medicine and Surgery: the Gleanings of Ten Years of Active General Practice. By John Grantham, Fellow of the Royal College of Surgeons of England, &c. 8vo, pp. . London. 1844.

   The papers, 26 in number, contained in this interesting volume, were originally published in the *Medical Gazette*.

3. The Encyclopedia of Chemistry, Theoretical and Practical: presenting a complete and extended view of the present state of Chemical Science. By James C. Booth, and Martin H. Boyé. *With numerous engravings.* Part 3 and Part 6. Philadelphia: 1844.

   This work is publishing in monthly numbers.

4. Practical Treatise on the Diseases peculiar to Women, illustrated by Cases derived from Hospital and Private Practice. By Samuel Ashwell, M.D., Obstetric Physician and Lecturer to Guy's Hospital, &c., [*concluding part from p.* 469 *to p.* 734.] 8vo. London: 1844.

5. A Report of the Obstetric Practice of University College Hospital, London. By Edward William Murphy, A.M., M.D., Professor of Midwifery in the College; Obstetric Physician to University College Hospital, and formerly Assistant Physician to the Public Lying-In Hospital. 8vo, pp. 53. Dublin: 1844.

6. Remarks on the Present State of the Medical Profession in this country; and on the changes proposed by the Bill recently introduced into Parliament by Sir James Graham, Bart., Her Majesty's Secretary of State for the Home Department. By Thomas Nunnely, Esq., Fellow of the Royal College of Surgeons of England, &c. 12mo, pp. 24. Leeds: 1844.

7. The Medical Remembrancer. By Edward B. L. Shaw, M.R.C.S., and L.A.S., one of the Surgeons to the Royal Humane Society, and Assistant Apothecary to St Bartholomew's Hospital. 16mo, pp. 108. London: 1845.

8. A Theory on the Proximate Cause of Insanity; together with some observations upon the remote causes of the disease. By Beverly R. Morris, A.B., M.D. of Trinity College, Dublin, Physician to the York Dispensary. 8vo, pp. 36. London: 1844.

9. Observations on the Construction of Hospitals for the Insane. By Beverly R. Morris, A.B., M.D., &c. &c. 8vo, pp. 18. London: 1844.

10. Aolee; or Human Sacrifices in Ireland. By Shewbridge Connor, A.M., M.B., T.C.D., Fellow of the King and Queen's College of Physicians, M.R.C.S.D., and Physician to the Carlow County Fever Hospital. 8vo, pp. 16. Dublin: 1843.

11. Treatise on Inflammation, as a process of Anormal Nutrition. By John Hughes Bennett, M.D., F.R.S.E. Fellow of the Royal College of Physicians, &c. &c. 8vo, pp. 80. Edinburgh: 1844.

12. Urinary Deposits; their diagnosis, pathology, and therapeutical indications. By Golding Bird, A.M., M.D., Assistant-Physician to, and Lecturer on Materia Medica at Guy's Hospital, Licentiate of the Royal College of Physicians, &c. &c. &c. 8vo, pp. 322. London: 1844.

13. The Principles and Practice of Obstetric Medicine and Surgery, in reference to the process of Parturition. With one hundred and ten illustrations on steel and wood. By Francis H. Ramsbotham, M.D., Fellow of the Royal College of Physicians, &c. &c. &c. 2d edition. 8vo, pp. 732. London: 1844.

14. Researches and Observations on the causes of Scrofulous Diseases. By J. G. Lugol, Physician to the Hospital of St Louis, &c. Translated from the French, with an Introduction, and an Essay on the Treatment of the principal varieties of Scrofula. By W. Harcourt Ranking, M.D.

Cantab., Physician to the Suffolk General Hospital. 8vo, pp. 306. London: 1844.

15. An Essay on the Philosophy of Medical Science. By Elisha Bartlett, M.D., Professor of the Theory and Practice of Medicine, in the University of Maryland. 8vo, pp. 312. Philadelphia: 1844.
16. The History, Diagnosis, and Treatment of Typhoid and of Typhus Fever; with an Essay on the Diagnosis of Bilious Remittent, and of Yellow Fever. By Elisha Bartlett, M.D., Professor of the Theory and Practice of Medicine, in Transylvania University. 8vo, pp. 393. Philadelphia: 1842.
17. Lectures on Pulmonary Phthisis, delivered in Jervis Street Hospital; comprehending the Pathology, Diagnosis and Treatment of the Disease: with an Appendix. By John T. Evans, M.D., Licentiate of the Queen's College of Physicians, Ireland, Physician to Jervis Street Hospital, &c. &c. 8vo, pp. 196. Dublin: 1844.
18. The American Journal of Insanity. Edited by the Officers of the New York State Lunatic Asylum, Utica. 8vo, 2d No. Utica: 1844.
19. Remarks upon the Mortality of Exeter; together with Suggestions towards the improvement of the Public Health: being a Letter addressed to Henry Hooper, Esq., the Right Worshipful Mayor of Exeter. By Thomas Shapter, M.D., Physician to the Dispensary. 8vo, pp. 32. London: 1844.
20. A Practical Inquiry into the value of Medicinal Naphtha in Tubercular Phthisis. By Edward Octavius Hocken, M.D., Physician to the Blenheim Street Infirmary, and Free Dispensary, Fellow of the Royal Medical and Chirurgical Society, &c. &c. 8vo, pp. 72. London: 1844.
21. Advantages of Medical Association: an Address read to the Harveian Society, at the opening of its 14th Session. By Edward W. Murphy, A.M., M.D., Professor of Midwifery in University College, and late President of the Society. 8vo, pp. 15. London: 1844.

TO READERS AND CORRESPONDENTS.

The following Original Articles will appear in the February Number, as formerly announced:—

PROFESSOR CHRISTISON. On Certain Cases of Functional Disorders of the Heart, which are apt to be confounded with Hypertrophy.

DR CORMACK. On the Differential Diagnosis and Treatment of Acute Inflammation, Simple Congestion, and True Hypertrophy of the Spleen.

DR EASTON. Case of alleged Infanticide, in which it was supposed that death was caused by a quantity of mud having become impacted in the Œsophagus.

PROFESSOR GREGORY. On the Study of Chemistry, with especial reference to Physiology.

DR KING. Case of Accidental Avulsion; with Remarks.

DR WILLIAM KEITH. Hospital Statistics of Diseases of the Joints.

PROFESSOR SIMPSON. On the Expulsion and Extraction of the Placenta before the Child.

DR SPITTAL. On the Physical Diagnosis of Peritonitis.

The following communications have been received, and will afterwards appear.

DR HANDYSIDE. Remarks on Amputation at the Hip-Joint; with an illustrative Case.

DR LEITCH. Case of Extra-Uterine Fœtation, and Stone in the Bladder.

DR LEITCH. Case of Absence of the Bladder, and Malformation of the Genital and Urinary Organs in Man.

DR MACKENZIE. Case of Perforation of the Ileum.

DR TURNER. Case of an old woman in whom a horn grew from the skin of the inner aspect of the tibia.

THE BRITISH AND FOREIGN MEDICAL REVIEW,

EDITED BY

JOHN FORBES, M.D., F.R.S., F.G.S.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS IN LONDON.

In entering upon the TENTH YEAR of his labours, the Editor of THE BRITISH AND FOREIGN MEDICAL REVIEW trusts that he may honestly indulge and avow a feeling of pride when looking back on what he has accomplished. His main objects in establishing this Journal, were (1,) To raise the criticism of medical literature to the same dignified and independent position which the criticism of general literature had attained; and, (2,) To extend its limits so as to embrace the productions of the medical press throughout the world. The means by and through which he hoped to be able to work so great and desirable a change were, chiefly, the following:—

1. The entire independence of the Review on booksellers and publishers.
2. Disregard of expense in procuring the books and journals of every country.
3. The co-operation of the best-informed writers in every department of medical science.
4. The determination never to admit gratuitous contributions into the pages of the Review.
5. The sincere desire to ascertain the truth on all subjects, as far as practicable; and the courage to speak it, without regard to place or person.
6. The resolution to keep no terms with quacks and quackery.

It is a high gratification to the Editor to be able to appeal to the best authorities in this country, as well as on the continent of Europe, and in America, in proof that the objects contemplated have been in a great measure attained. But the Editor does not feel that he need confine the exposition of his sentiments on this point to the words of others. Knowing how comparatively small a share he has had in the actual composition of articles in the Journal, he considers himself to be in a position that warrants a judgment on its merits almost as free from bias as in the case of other works; and he feels it to be but an act of simple justice to the eminent men by whom he has been assisted, thus publicly to state it. Accordingly, he does not hesitate to avow his conviction—that the eighteen volumes of the Review now before the public contain a greater amount of important information in all departments of medical science, more of novel yet sound practical instruction, and more of just and enlightened criticism, than are to be found in any similar work of the same extent.

The Editor will only further add, that the same principles which have hitherto presided over the construction and management of this Journal, shall continue to govern it for the future; tried and proved as they now are by a long and wide experience, and sanctioned and confirmed as they have been by the general assent and favour of the profession.

It is intended that one important and characteristic feature of the Review, only of recent date, but already established in the good opinion of the profession, shall, in the subsequent volumes, receive still further development. The REPORTS of the labours of medical inquirers generally, and of the progress made by them in each department, will be continued in ANNUAL SERIES, comprehending every subject of interest to the medical practitioner, whether coming under the name of the Science or the Practical Art. One or more of these Reports, *with the author's name attached*, will appear in each number of the Journal. They will be arranged, for the most part, under the following heads; although Reports on other special subjects will be occasionally added:—

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    2. Dental and Aural Surgery.
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V. Materia Medica and Pharmacy.
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No. XXXVII. will be published on the 1st of January 1845, *price* 6*s.*

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To the Medical Profession.

84 Queen Street, Glasgow, 30th Dec. 1844.

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Glasgow, December 1844.

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MONTHLY JOURNAL
OF
MEDICAL SCIENCE.

In One Volume Annually.

EDITED BY

JOHN ROSE CORMACK, M.D. EDIN., F.R.S.E.

PHYSICIAN TO THE ROYAL INFIRMARY OF EDINBURGH, AND LECTURER ON FORENSIC MEDICINE.

NO. L.—FEBRUARY 1845.

BOOKS, LETTERS, PAPERS, &c., *for the Editor, to be sent, free, to Dr Cormack, 131 Princes Street, Edinburgh; and* ADVERTISEMENTS, &c., *to the Secretary to the Proprietors, at the same address.*

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ANDREW JACK, PRINTER.

UNIVERSITY OF ST ANDREWS.

At a Meeting of the Senatus Academicus of the University of St Andrews, held on 11th of January 1845, the following resolutions were unanimously adopted.

RESOLVED, 1*st*, That the Senatus have seen with astonishment, in an article on the proposed Medical Reform Bill in the last number of the Edinburgh Review, various unfounded aspersions on the University of St Andrews, relative to their system of Medical Graduation.

2*d*, That the Senatus find it there asserted, that "rejected or despairing Candidates of Edinburgh, or of other Schools, find a ready outlet at St Andrews." To such an allegation the Senatus give an indignant and peremptory denial, and assert that it could only have proceeded from ignorance or wilful perversion of the truth. They call upon the reviewer to adduce evidence that rejected or despairing Candidates of other Schools obtain Medical Degrees at St Andrews; and, in the meantime, they beg to make the following statement of facts relative to their present system of graduation, followed since 1826, which they conceive sufficient to prove *first*, that so far from rejected Candidates of other Schools having been passed at St Andrews, the admitted Licentiates of other Medical Boards have frequently been rejected at St Andrews; and *secondly*, that the number and character of the rejections have been such as to establish, that the system of examination there followed, instead of being insufficient, as is alleged, must necessarily be of a very rigorous and searching nature.

For several years after the Senatus instituted the present regulations for granting Degrees in Medicine, one out of every five Candidates was remitted to his studies. Of late the Candidates who have presented themselves have been of a superior order, but still the average number of those remitted to their studies within the last eleven years, has been nearly one out of every seven. At the last examination, five out of twenty-eight, or nearly one in five, were remitted to their studies: and one of them, who held the diploma of the Royal College of Surgeons of London, and who had been several years in practice, was remitted to his studies for the second time.

At the last three examinations, seventy-one Candidates were examined, and of these, twelve, or rather more than one out of every six, were rejected. Of these seventy-one, there were thirteen who presented no diploma from any of the Licencing Medical Boards of the three kingdoms, but who possessed all the preliminary qualifications prescribed by the University in their published regulations, and six of these, or nearly one half, were rejected. The other six rejected Candidates were all members of the Royal College of Surgeons of London, and some also held the diploma of the London Apothecaries' Company. Of the whole seventy-one Candidates, forty were members of the Royal College of Surgeons of London, thirteen were members of the Royal College of Surgeons of Edinburgh, four were Licentiates of the Apothecaries' Company, and one a Licentiate of the Faculty of Surgeons and Physicians of Glasgow. From this statement it appears, that only a small number of the Candidates did not already possess all the legal qualifications for practising the medical profession; and as out of those who had not passed some other Licencing Board, nearly one half were rejected, it will be seen how much encouragement is held out to the rejected and despairing Candidates of other Schools.

In the year 1840, thirty Candidates appeared, and of these twenty-four passed, and six were rejected. Of the six rejected, four were members of the Royal College of Surgeons of London, one was a member of the Royal College of Surgeons of Edinburgh, and one possessed no diploma.

A great proportion of the candidates who present themselves, have been for several years in practice, and many of them have already risen to eminence in their profession. The Senatus therefore confidently challenge any of the Scottish Universities to adduce more satisfactory evidence than the above, of caution and discretion in the exercise of their privileges. The reason that so many Candidates resort to St Andrews, is not that the University does not insist upon an ample and efficient course of education, and a thorough and severe examination, but because she dispenses with some of the regulations of other Universities, such as a residence, for one year at least, in the particular University granting the degree, which may be of pecuniary advantage to the Professors of that University, without necessarily rendering the qualifications of the Candidates more complete.

3*d*, That the Senatus are at a loss to conceive how so unfounded and scandalous a statement, as that "a traffic in degrees continues to be carried on in the University of St Andrews" should have been admitted into the pages of the Edinburgh Review. If the taking of moderate fees from Candidates constitutes a traffic in degrees, then it is believed that there is no University in the United Kingdom, and least of all, that of Edinburgh, which does not carry on such a traffic; and if the extent of the traffic is estimated by the amount of such fees, they doubt not that their traffic is exceeded by that of others of those institutions. But when it is considered that the indispensable condition of obtaining medical honours at the University of St Andrews is the passing a very stringent examination, it must be evident that the allegation of traffic in such honours as directed against St Andrews is entirely unfounded.

The British and Foreign Medical Review.

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LONDON: JOHN CHURCHILL, PRINCES STREET, SOHO.

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ART. I.—Illustrations of the Theory and Practice of Ventilation, with Remarks on Warming, Exclusive Lighting, and the Communication of Sound. By D. B. REID, M.D.

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On Mental Diseases and their Legal Relations. By J. H. HOFFBAUER.

2. A Treatise on the Medical Jurisprudence of Insanity. By J. RAY, M.D., Superintendent of the Maine Insane Hospital.

3. Remarks on the Impunity of certain Attempts to Murder. By T. MAYO, M.D.

ART. IV.—1. Das Pest-Contagium in Egypten und seine Quelle, nebst einem Beitrage zum Absperr-systeme. Von J. F. GROHMANN, Med. Dr. des Kaiserthums Oesterreich und Königreichs Sachsen, &c.

Plague-Contagion in Egypt, and its Source, with a Supplement on the Quarantine System. By J. F. R. GROHMANN, M.D. of the Empire of Austria and Kingdom of Saxony, &c.

2. Risposta ai sette Quesiti concernenti la Peste bubonica orientale. Del Dot. FRANCESCO GRASSI, Cavaliere di piu ordini, gia Medico-Chirurgo in capo dello Spedale generale della marina di guerra Egizia, &c. &c.

Answer to the Seven Questions concerning the Oriental Bubonic Plague. By Dr. FRANCESCO GRASSI, Knight of several orders, Chief Medical Officer of the General Hospital of the Egyptian Navy, &c.

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Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fr. Schmidt. Lith. Edinr.

ILLUSTRATIONS OF Dr LIETCH'S CASES.

Vide p. 108

The Plate illustrating Professor Simpson's Lecture will be given with next number.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On Certain Cases of Functional Disorder of the Heart, which are apt to be confounded with Hypertrophy. By* ROBERT CHRISTISON, M.D. Edin., F.R.S.E., *Professor of Materia Medica in the University of Edinburgh.*

(Read before the Med.-Chir. Society of Edinburgh, 8th January 1845.*)*

THERE is a description of cases of Functional Disease of the Heart, which, in respect of the diagnosis and treatment, appear not unworthy of being distinguished among the varieties of that affection, but which, so far as I am aware, have not been taken notice of by any author who has written on the subject.

They are apt to be mistaken for hypertrophy of the heart. I mean, that in my observation, they have generally been mistaken for it. The error, perhaps, ought not to occur in the hands of one well acquainted with the modern method of investigation in such circumstances. But the sufferings of the patient are generally so distressing, and some of the symptoms so permanent, that a doubt or an error, even in the instance of the experienced, is not to be wondered at.

The cases referred to are met with chiefly during adolescence, and among young adults. The greater number that I have seen have occurred among males. The affection seems to concur usually with a slender frame of body, yet with a muscular system tolerably well developed, and at all events firmly knit. In two instances there were family reasons for supposing that a phthisical constitution existed. But I have not observed any other remarkable constitutional peculiarity besides that excitability of the nervous system, which prevails more or less in all cases of excessive action of the heart from functional causes. In one individual,

the state of the heart, which seems the fundamental cause of disturbance, existed without any corresponding complaint; but all the other cases presented the worst forms of functional derangement.

The first I have to mention, is the case of a student of the University, who consulted me in the spring of 1835 He was eighteen years of age, slender, yet muscular, of middle stature, florid in complexion, and healthy-looking. He complained of a sense of great pulsation in the chest, always forcing itself on his attention more or less, but particularly after meals, and above all, when he lay down at night. The beating in the left side was then extremely troublesome; and being attended also with throbbing in the head, it often prevented him from falling asleep for several hours. The pulsation in the chest was aggravated by slight mental excitement, confinement to the house, hard study, or any violent exertion, but not by moderate exercise; and he always felt better when he had regular active exercise in the country. There was no difficulty of breathing, except when the palpitation was suddenly rendered for a time unusually vehement; and he had no dyspeptic symptoms of any consequence. I do not know how long he had been thus affected; but his complaints had been particularly troublesome for about a twelvemonth.

The pulse was about ninety, moderately firm, regular, and easily excitable. The chest was rather narrow, but otherwise naturally formed. The left side of the chest, over the heart, to the extent of one's palm, was visibly raised at each pulsation; and my head was lifted by the stethoscope while I examined this region. The apex pulsated with great force between the cartilages of the fourth and fifth ribs, very near the sternum. The pulsation was unattended with any thing unusual in the sounds of the heart, except increased loudness and sharpness. The sound towards the outer extremities of the subclavian arteries was scarcely greater than natural. The dulness of sound upon percussion over the heart was unusually limited in extent.

In this instance the heaving impulse communicated both to the ear and the hand was so excessive, that I was at first in doubt as to its true nature. But trusting to the position of the heart's apex, the signs furnished by auscultation, and the effects of exercise, I came to the conclusion, that there was no serious organic disease of the heart; of which the patient had entertained great dread.

He was therefore advised to return home to the country as soon as possible, to suspend his studies for a time, to take frequent, regular, but never violent exercise in the open air, and to live chiefly on milk and farinaceous diet, with as little animal food as possible. He was particularly warned of the necessity of weaning himself from the habit of attending to the action of the heart,—a habit into which all such patients inevitably fall, but which as inevitably aggravates, not merely the sense, but likewise the actual force, of

pulsation. This is always found by the patient the most difficult article of regimen to follow. But if he prevail on himself to regard the beating in the chest and head as a functional affection merely, as the source of annoyance and suffering, but not of danger,—if he be attentive to resume exercise whenever it happens to be troublesome during the day, and to betake himself to the reading of some unexciting literary work when it forces itself too much on his notice on his going to bed, he will ere long succeed in losing sight, as it were, of the sensation altogether. At least such has been the result in all the instances of this affection which have come under my observation.

So was it in the present case. When the youth returned to his studies at the University next winter, he informed me, that in a few weeks he ceased to experience any sense of pulsation either in the chest or head, except during unusual mental excitement, or some violent bodily exertion; that he was able to take brisk exercise without inconvenience; that he slept with little disturbance; and that his former complaints no longer interrupted his studies. I was surprised, however, to remark,—for this was the first case of the kind I had an opportunity of examining a second time after a considerable interval,—that the heaving of the chest and strong impulse still continued, and with no great abatement in force. The pulse also continued frequent, yet regular. I saw him again after an interval of six months, still in the same state. His studies had not affected him permanently; but he had several times found reason to be satisfied, that, without a firm determination not to keep watch upon the action of his heart, he would relapse into his former condition. He afterwards became actively occupied in Roxburghshire, and I heard of him several times as enjoying good health, but still presenting strong impulse of the heart and heaving of the chest. Subsequently, he went to India, where he has been for nearly four years. A medical friend, acquainted with his case, who heard from him two years ago, informs me that he was then in the enjoyment of perfect health, and that his family continue to receive the same favourable reports of him.

The next case is the most interesting of all that I have yet had occasion to observe. A graduate of this University, twenty-five years of age, had suffered, so far as I remember, for several years from palpitation and dyspnœa, which had been particularly severe for a twelvemonth. When I first saw him, towards the end of February 1841, he complained of incessant violent pulsation in the chest, accompanied with shortness of breath, and also of constant beating in the head, with a sense of fulness and distention there, injection of the eyes, headach, giddiness, and ringing in the ears. These symptoms were aggravated after meals, by mental labour or disturbance, by sudden exertion, and above all on his going to bed, where he was often for hours unable to lie down, owing partly to the alarming feeling of the heart pulsating forcibly against the

parietes of the chest, and partly to the beating of the temporal arteries, which seemed to him to raise his head from the pillow. In the day-time he was unable to follow any occupation, and got no relief except from gentle exercise on foot or horseback. During the night he slept little, sometimes not at all, even when large opiates were taken. His mind was constantly occupied with his complaints; his appearance was excited, anxious, and hypochondriacal; he was strongly persuaded of his malady being an irremediable organic disease of the heart; and he entertained a dread of its terminating in sudden death.

He had consulted, he said, various medical men in town and country, most of whom pronounced him to labour under hypertrophy of the heart. One or two, as he stated, had said they thought his disease functional only; but as they could not satisfy him how a mere functional disorder could occasion such severe and steady symptoms, he thought they were charitably deceiving him. One physician, a friend in the country where he resided, had convinced him recently before, that the primary disease was an affection of the brain; and he had been accordingly treated by general blood-letting, shaving, blistering, leeches, cold applications, and brisk purgatives,—under which method he thought himself decidedly worse.

He was of middle stature, moderately muscular, and florid. The pulse was about 100, full, and firm; the tongue doughy and rather loaded, but his digestion good. The carotids and temporal arteries beat with considerable force; and the head, which he continued to keep shaved, was generally hot. The cardiac region of the chest was so strongly elevated by the heart's action, that the movement could be seen across a small room, when he was stripped. The impulse imparted to the ear and hand was as great as I have ever felt it in any case of genuine hypertrophy. The apex beat distinctly between the cartilages of the fourth and fifth ribs, very near the sternum. The præcordial dulness on percussion was unusually limited in extent. Nothing unnatural could be detected in the sounds of the heart's action, except great loudness, uncommon sharpness, and general diffusion, so that they could be distinctly heard at any part of either side of the chest.

Relying on the close correspondence between the last case and the present in their leading features, I took the same view of this gentleman's illness. Explaining to him, therefore, how his complaints were to be accounted for, without the necessity of assuming the existence of organic disease, I urged on him the necessity of withdrawing his attention from his ailments, warned him of the probability of his otherwise falling into irrecoverable hypochondriasis, and gave him the same directions as to diet, exercise, and regimen generally, as in the former case, the history of which I detailed to him. I also advised, that, in the event of his not soon experiencing relief, a seton should be introduced near the heart,

more, however, to serve as the means of distracting his attention, than for any other purpose. He returned to the north country, apparently convinced for the time, that his disease was functional. In about four weeks he informed me by letter, that he had got entirely quit of the symptoms referrible to the head, and that he usually slept for four or five hours every night. But he added that there was no sensible improvement in any other respect; and he entered into so full a detail of his sufferings, that it was evident he had not walked by his instructions, to withdraw his attention from the action of the heart. In the end of June he apprized me that he had worn a seton for two months; that at the end of that period he usually slept between five and eight hours without interruption, that the pulse fell to 64, and had become much less jarring, and that the impulse of the heart had materially abated; but that subsequently to an attack of fever, the impulse increased very much, and might be felt distinctly "elevating the sternum as high up as between the second and third ribs, but with the apex still beating between the fourth and fifth." This relapse, however, was of short duration; his recovery ever afterwards went on gradually, but interruptedly; and on the 18th October he wrote to me, that "he thought himself almost completely well. My sleep," says he, "is now perfectly good. Exercise of any kind, unless very violent, produces no dyspnœa or shortness of breath. My tongue is perfectly clean. I have not examined the cardiac region for several months."

When I first saw this gentleman, he was so completely overwhelmed with his complaints, that he was compelled to surrender a medical appointment to one of the colonies. I have since learned that not long after the date of his last letter, he went to the West Indies, apparently in perfect health. I regret I had no opportunity of examining him personally after his recovery. It is plain that in this instance the fundamental cause of illness was combined with great excitability of the nervous system. But this constitutional peculiarity would not singly account for the symptoms.

The last case I have to mention in detail, is that of a medical student, still under my occasional observation. When he first consulted me in the spring of 1842, he was eighteen years of age, tall, slender, florid, delicate in appearance, yet firm in muscle. He complained, like the others, of palpitation constantly pressing itself on his attention, but especially when he ascended a stair, walked quickly, applied himself assiduously to his studies, or lay down to sleep at night. It was sometimes long before he fell asleep, owing to the pulsation in his chest, especially if he lay on the left side. He had no difficulty of breathing, no dyspeptic symptoms, and no undue anxiety about himself. He had suffered more or less from these complaints for a twelvemonth.

The impulse of the heart was very strong and extensive, both to the hand and the stethoscope; and it was even visible from a short distance. The apex pulsated with great force and distinctness

near the sternum, between the cartilages of the fifth and sixth ribs. The precordial dulness on percussion was somewhat more limited in extent than it is commonly observed to be. I could detect no unusual sound; but there was increased loudness, extent, and sharpness. No irregularity could be remarked in the heart's action, although this was carefully looked to, in consequence of the patient himself having occasionally noticed an intermission. Nothing unusual could be observed in the action of the cervical vessels. The impulse of the carotid and subclavian arteries was much the same as in ordinary circumstances.

Although the symptom observed in the previous cases, namely, the elevation of the apex of the heart to the intercostal space between the fourth and fifth ribs, was in this instance wanting, I felt inclined to view it as essentially similar in nature. It appeared to me, that hypertrophy, adequate in degree to account for such forcible impulse, could not exist with such limited dulness on percussion, and with the apex pulsating where it did. The same advice was therefore given in regard to treatment, as in the former instances.

In the middle of June he reported to me that the palpitation was less severe and with longer intervals; but that the least excitement or exertion still brought on a violent attack of it; and that he was subject to occasional determination of blood to the head, causing a state of forgetfulness and confusion for some seconds. After that he continued gradually to improve, though with occasional returns of palpitation. Last autumn he was so well that he was able to take vigorous exercise in the Highlands, and one day went to the top of Cairn-Gorum at a brisk pace without inconvenience. At the present time he is seldom conscious of pulsation, unless he turn his attention to it. He thinks there is occasionally an intermission in the action of the heart; but I could not observe any on lately examining him for the purpose. No change has taken place in the heart's action, except that the impulse and sound are somewhat diminished,—still being, however, much greater than natural; and the apex continues to beat close to the sternum, between the fifth and sixth ribs.

I have met with two other cases which appeared to me at the time to be of the same nature with those now described. But as the result is not accurately known to me in either instance, it is unnecessary to detail them. One of these was the case of a young farmer from the south of Scotland, who complained of dyspeptic symptoms and palpitation, and laboured under the dread of suddenly dying from diseased heart. The heart pulsated with considerable force, so as visibly to agitate the chest, even when he was examined in the erect posture. The apex was felt between the cartilages of the fourth and fifth ribs. The præcordial dulness on percussion was unusually circumscribed; and there was nothing uncommon either in the nature or intervals of the

sounds of the heart. This was the first case of the kind which came under my notice. I formed the opinion that there was no evidence of any material organic disease being present. But the result of the case is not known to me, as I never heard of the patient afterwards. The other case was that of a lady from Fife, who presented the same excessive action of the heart, the same position of its apex, and the same limited dulness on percussion over the region of the heart as in the last instance. I do not know her subsequent history farther than that she got materially better soon after I saw her. It is also worthy of mention, that I met, a few years ago with a case of chronic rheumatism in the Infirmary, in which the patient, a man of middle age, presented violent impulse, pulsation of the apex of the heart between the cartilages of the fourth and fifth ribs, limited dulness on percussion, and frequency of the pulse, but without any complaints referrible to the heart. The man never had suffered from palpitation; and no change in this respect was observed during several weeks while he remained in the hospital.

The symptoms in the preceding cases may be summed up in the following terms:

The pulsation of the heart is frequent and very violent; so that, in examining it, the observer's head is raised by the impulse given to the stethoscope, and the agitation of the chest is visible at a distance of eight or ten feet, when the patient is stripped. The pulse at the wrist is firm. There is not always any unnatural pulsation of the carotid and temporal arteries. But sometimes this symptom is present, especially if the affection has become aggravated by the patient's anxiety and habit of watching his sensations. And in that case there may be also a sense of beating in the head, giddiness, headach, confusion, and excitability. There is always a sense of pulsation in the chest; which complaint, as well as the beating in the head, is particularly troublesome in bed, and above all, when the patient lies on the left side. The sense of pulsation is aggravated by active locomotion, but not by moderate exercise, though long continued. There is not any marked difficulty of breathing. Even under sudden active exercise, palpitation, rather than shortness of breath, arrests exertion. Indigestion is not a necessary accompaniment; but when present, it tends to increase the principal symptoms. Alarm, anxiety, and a conviction of the existence of organic disease are seldom wanting. This state, as well as the symptoms generally, is aggravated by a sedentary occupation and hard study; and is, on the other hand, relieved by regular exercise and such mental occupations as employ the faculties without straining them.

So far there is nothing particular in the symptoms, to distinguish them from those of ordinary functional disease of the heart, except their unusual severity.

One peculiarity, however,—which at least is not generally observed in functional affections,—is the constancy of the leading symptom, violent pulsation in the præcordial region. The patient may have his attention withdrawn from it for a time, or even permanently, as in the cases I have witnessed. But whether he be conscious of pulsation or not, a preternatural heaving impulse may at all times be both felt and seen in the left side of the chest. The force of the impulse varies, it is true; but it always greatly exceeds what is natural, even when the other symptoms, more especially the patient's own sensations, have undergone such improvement, as to make him consider his disease at an end.

Another peculiarity is the region where the pulsation presents itself. The apex of the heart may be felt with the hand pulsating, —not, as usual, under the left nipple, between the fifth and sixth ribs,—but directly under their costal cartilages, very near the sternum, and generally between the fourth and fifth ribs. This is one of the principal characters, by which the cases now under consideration may at once be distinguished from unequivocal hypertrophy, with enlargement, of the heart; for in that disease the apex commonly pulsates much farther from the sternum, and lower down than in the space between the fifth and sixth ribs.

On examining the chest by percussion and the stethoscope, it is observed that the dulness on percussion in the region of the heart is not so extensive, and in particular does not reach so low down, as usual; and with the stethoscope nothing can be remarked but powerful impulse, with unusual strength, sharpness, and diffusion of the sounds of the heart's action. There is no sound indicative of structural change in the valves, and no irregularity in loudness or interval. Farther, there is no upheaving impulse behind the upper end of the sternum, no pulsation in the jugular veins, and either no unusual sound and impulse in the subclavian arteries, or at all events an increase by no means in proportion to the augmented impulse of the heart.

I have had, in several instances, an opportunity of examining the progress of this affection at different periods during an interval of several years; and invariably the result has been, that, while the patient's complaints have undergone material mitigation, on the other hand, what are usually called the *physical signs*, underwent scarcely any change. The strong impulse, the heaving of the chest, the position of the heart's apex, and the extent of dulness of sound on percussion, remained very much as at first. The force and loudness of the heart's impulse were indeed somewhat diminished. But the diminution was not in any instance considerable, and always much less in proportion than the improvement in the general symptoms. For as to these symptoms, in every case which I was disposed from the first to consider of the present denomination, they either eventually disappeared altogether, or became so mitigated as to be no longer the occasion of annoyance to the patient.

The pathology of this affection is obscure; but the facts which have been already stated, more especially those relative to the position of the apex of the heart, the extent of dulness on percussion over the heart, and the absence of the preternatural sounds which indicate valvular disease, seem to supply a plausible explanation of its characters. It appears to me that all the symptoms, both in their nature and their progress, may be accounted for on the supposition, that the heart is somewhat displaced, so that its apex lies unusually close to the parietes of the chest, and that it is also probably disproportionately small in size. It cannot be denied, indeed, that concentric hypertrophy, with displacement, may also account for most of the symptoms. But if hypertrophy be present, it does not seem to increase with time, so far as I have hitherto been able to remark. And the symptoms may be very well explained without it. The small size of the heart leads to unusual increase in the force and frequency of its contractions under ordinary sources of excitement; and if on any occasion of the kind the patient's attention be drawn to the pulsation within the chest, and the violent impulse over the region of the heart, there is only required an excitable constitution, and the habit of watching the symptoms, added to the popular dread of diseases of the heart, in order to engender gradually all the complaints which have been described above.

The general principles of the treatment are obvious, from this view of the pathology of the affection, and the details of some of the cases.

ARTICLE II.—*Case of alleged Infanticide, in which it is supposed that Suffocation was induced by a quantity of Mud having been Impacted into the Œsophagus; with Remarks. By* J. A. EASTON, M.D., *Professor of Materia Medica in Anderson's University, Surgeon to the Glasgow Police, &c.*

(*Read before the Medico-Chirurgical Society of Glasgow on the* 13*th of August* 1844.)

I HAVE been induced to lay before the Society the following case, because I am of opinion, that it presents some points of interest in a Medico-Legal view, and because it is one, moreover, to which I can find no parallel in those works on Forensic Medicine which I have had an opportunity of consulting. On the 22d of last March, information was lodged at the Sheriff's chambers, that the body of a male child had been found in a quarry near the west bank of the Kelvin, in the immediate vicinity of the bridge which leads to the Royal Botanic Garden and Lunatic Asylum. As it is of the utmost importance, however, that the Society should be aware of the precise situation and circumstances in which the body was

found, I shall take the liberty of narrating these as they were detailed to me by the individual who discovered the corpse.

"About a quarter to eleven o'clock, on the forenoon of the 22d of March last, I had occasion to leave my work and go for a necessary purpose into an old quarry situated on the lands of Hillhead, and near to the Kelvin Bridge Toll-bar, Great Western Road. My attention was directed, while in the quarry, to what appeared to me to be the foot of some animal sticking up from a quantity of soft mud, which had accumulated and run down the face of the quarry, which may be thirty or forty feet high,—I advanced to the spot, and saw that the foot was that of an infant, and I could see the head and features of it under the surface of the mud, as that part of the body was covered with a thin coating of soft mud."

Next day the body was inspected, and the following Medical Report was drawn up in a day or two afterwards.

"Glasgow, 23d March 1844.

"This is to certify, that, under the authority of a warrant from Henry Glassford Bell, Esquire, advocate, sheriff-substitute of Lanarkshire, I this day inspected and carefully examined, in an unfinished building on the lands of Hillhead, near Glasgow, the body of a male child, represented by ——— ———, as having been found by him the day before, in a quarry not far distant from the place where the inspection was made.

"This child was apparently about three weeks old, was stout, well formed, and presented such a plump appearance externally, as to leave no doubt that death had not succeeded a protracted illness. The brain and lungs were unusually congested—the latter organs especially exhibiting the deep violet-colour, which is seen in the lungs of those who have died from suffocation. The other organs were natural and healthy. The stomach contained somewhat more than an ounce by weight, of nearly *solid mud*, and the gullet, throughout the greater part of its length, was blocked up by a similar substance, and a small quantity was likewise found on the tongue and in the mouth. The anterior nostrils contained a little mud, but they were perfectly pervious, while the back part of these tubes, and the larynx and windpipe were free of any obstruction whatever.

"Deglutition being essentially a vital act, incapable of being performed by inanimate matter, it follows, either, that the mud must have been forced, after death, by mechanical contrivances, aided by strong pressure, into the parts where it was found, or, that it must have been introduced by another into the mouth of the child while yet living, and been swallowed during the convulsive struggles which most probably preceded dissolution. The latter is more likely, in my opinion, to have been the case; in which alternative the death was caused, not by the mere presence of mud in the stomach, but by the distended gullet pressing on the windpipe, and thereby producing suffocation,—an opinion which is strongly supported by the general appearance of the corpse, by the state of the lungs and brain, and by the absence of disease in any other part of the body. All this I attest to be true, on soul and conscience,

"J. A. Easton, M.D."

Though I have no doubt that the Society will give me credit for having drawn up as honest an account of the appearances that were presented at this autopsy as I could, yet it may be as well to submit the description of these which was given me by one of the numerous tradesmen who were working at the time in the unfinished tenement where the inspection was performed.

"I was present all the time that the body was inspected by Dr Easton, and am

positive that the child so inspected was the one discovered in the quarry the day before. I saw the Doctor introduce his finger into an opening between the breast and neck of the child and press mud out at the child's mouth. This mud appeared to me to be somewhat softer than the mud in which the body was found, but I did not pay particular attention to that. I saw the Doctor take the stomach of the child from its body, and when the stomach was opened it was found to be partially filled with mud like what I had seen pressed into the mouth from the opening between the neck and the breast, as above stated."

It being now suspected that foul play had been used, the authorities, in order that the ends of justice might not be frustrated by any deficiency in the medical evidence, thought it necessary that Dr Macgregor, my coadjutor in such cases, should re-inspect the body, and report whether he agreed with me as to the cause of death. The following are Dr Macgregor's reports.

"GLASGOW, March 24, 1844.

"After having carefully considered the appearances presented by the dead body of a male child, found in an old quarry in the immediate neighbourhood of Kelvin bridge, on the Great Western Road, near Glasgow, as detailed by Dr J. A. Easton in his report of the inspection, I am clearly of opinion, that the death must have arisen from violence, and that it would be necessary for me to inspect the body along with Dr Easton. On soul and conscience, is attested by

"ROBERT MACGREGOR, M.D."

This second inspection was made accordingly, and the following report, written by Dr Macgregor, and signed by us both, was presented to the authorities.

"GLASGOW, March 25, 1844.

"This is to certify, that by virtue of a warrant from Henry Glassford Bell, Esquire, advocate, sheriff-substitute of Lanarkshire, we this day carefully inspected the exhumed body of a male child, said to have been found buried in mud in the bottom of a quarry, in the neighbourhood of Kelvin bridge, near Glasgow.

"The body, which seemed that of a child of about three weeks of age, presented no outward marks of violence, was plump and healthy-looking, without any symptoms of decomposition. The different organs examined by Dr J. A. Easton, one of the reporters, on Saturday last, lay in their respective cavities, with the exception of the stomach, and a lung which had been removed to Glasgow for inspection, by Dr Robert Macgregor, another of the reporters. The vessels of the brain looked gorged with blood. The lungs were congested; the lining membrane of the mouth and gullet was soiled with mud; the outer nostrils were muddy, but the inner orifices leading into the mouth seemed free from mud. The windpipe, on being slit open in its entire length, exhibited not a trace of that substance. The other organs were quite healthy.

"After having minutely examined the quarry in which the corpse was found, the position in which it lay, the consistence and the quantity of the mud, we are clearly of opinion, that the death of this child must have been caused by the stuffing of the gullet with mud, which must have pressed on the windpipe so forcibly as to cause suffocation. All this we attest to be true, on soul and conscience.

"ROBERT MACGREGOR, M.D.

"J. A. EASTON, M.D."

Having thus narrated the circumstances of the case, I shall now adduce one or two arguments in support of the theory of the medical reporters as to the cause of death, the more especially as I

know that the opinion is entertained, and I have no doubt will be strongly advocated, by some this evening, that the introduction of the mud into the œsophagus and stomach was a *post mortem* act—the necessary consequence of gravitation along an inanimate cylinder. In the first place, then, I maintain that, except in certain circumstances to be mentioned in the sequel, no substances, not even water or air—bodies certainly more subtle than mud—can penetrate into the œsophagus or stomach after death, excepting that decomposition has ensued, of which in this case there was not the slightest trace. On this subject, Devergie, probably the highest authority in legal medicine, expresses himself most decidedly. "The introduction of water," says he, "into the stomach is a phenomenon essentially vital; it supposes deglutition, for the experiments of Messrs Edward Jenner Cox, Orfila, and Piorry, have proved that it cannot make its way (*s'introduire*) after death.[1] No doubt, within the last few years Mr Alfred Taylor performed a set of experiments that afforded results which, to a certain extent, apparently contradict this statement of Devergie, and might lead a superficial observer to adopt a doctrine opposed to that which the French jurist contends for. The experiments of Mr Taylor consisted in lowering three cats of nearly equal size into different depths in the river Thames. No. 1 was rapidly lowered to the depth of 55 feet, No. 2 to the depth of two feet below the surface of the water, and was forcibly maintained in that position, while No. 3 was drowned on the surface, but was allowed to sink and rise to respire frequently before death. The three cats were removed from the water after the lapse of a quarter of an hour, and on examination, it was discovered, that the stomach of No. 1 was completely distended with water, that little or no water was contained in that of No. 2, but that the stomach of No. 3 was filled, although not to so great an extent as that of No. 1. "By comparing the results," observes Mr Taylor, "obtained in the first and second cases, we must be allowed to infer, that the *depth* to which an animal sinks in drowning, may affect materially the quantity of water found within its stomach."[2]

There can be no doubt that the influence of such a columnar pressure, as was used in the first of these experiments, may be conceived to act on the body, whether it be submerged living or dead, but in the case under consideration, to say nothing of the different consistence of water and mud, it must be borne in mind, that the body was not subjected to pressure at all. If then the employment of a pressure of two feet of water, as in the second of Mr Taylor's experiments, was inadequate to force that fluid into the stomach of the dead animal, and if it required the columnar pressure of fifty-five feet to effect that object, is it not obvious that the *mere deposit-*

[1] Médecine Légale, Théorique et Pratique, tome ii, p. 344.
[2] Elements of Medical Jurisprudence, p. 121, vol. i., first edition.

ing of a dead body into a quantity of mud, where it was subjected to nothing but atmospheric pressure, could not have occasioned the introduction of foreign matter into the parts where it was found?

Secondly, If the mud had insinuated itself by gravitation after death into the œsophagus and stomach, why were not the larynx and trachea filled with that substance? On this point the medical reports, and particularly the report of Dr Macgregor, are very explicit, for in this latter document it is stated that "the outer nostrils were muddy, but their inner orifices, leading into the mouth, seemed free of mud. *The windpipe, on being slit open in its entire length, exhibited not a trace of that substance.*" When death takes place, one tube is not more active than another, and except where there are favouring anatomical peculiarities, all become equally bad as conduits, seeing that all are equally inanimate. They, however, who maintain that the presence of mud, in this case, in the tubes where it was found, was owing to post-mortem gravitation confer upon the dead œsophagus a degree of activity, if I may apply such a term under such circumstances, and an aptitude for receiving foreign bodies which they will not extend to the equally inanimate tube which lies beside it. Now it so happens that of these tubes the windpipe is, after death, the more likely of the two to admit the entrance of foreign bodies; for, owing to the great quantity of cartilage which pervades its structure, it is necessarily more patent, and consequently better adapted to favour the passage of extraneous substances than the œsophagus can be, the non-cartilaginous sides of which continue in close apposition till relaxed by putrefaction. Hence we find, that, in accordance with the best authorities in medical jurisprudence, the writer of the article Infanticide, in the *Cyclopœdia of Practical Medicine*, lays it down as axiomatic, "that the presence in the bronchi of a portion of the fluid in which a body is found is no proof of death by submersion; for," he adds, "fluids will pass into the bifurcation of the bronchi if the body have been thrown into water after death. If, however," continues the writer, "any of the fluid, and particularly any foreign matters contained in it, were found in the stomach, death from submersion would be unquestionable, as it could only have arrived there from deglutition." If, on the other hand, we adopt the theory that the mud was forced by the hand of ruthless violence into the mouth of the yet living child, we can easily explain why the œsophagus was wholly, and the stomach but partly filled, while the larynx and trachea were completely empty, for physiology informs us, that the glottis of the living animal spasmodically contracts at the contact of foreign bodies, and for some time at least successfully opposes their descent along the windpipe.

Lastly, on this part of the subject, If the mud had passed by gravitation after death into the œsophagus and stomach, I think that, in consonance with the phenomena of gravitation, we ought to have found the stomach *completely* distended, the *lower* part of

the œsophagus *filled*, and possibly the *upper* part of it *empty*, whereas the stomach contained but a comparatively small quantity of mud, while the œsophagus, in the greater part of its extent, but particularly in its upper half, was stuffed with it. If I correctly understand the phenomena of gravitation, the descending body passes to the bottom of a tube, and gradually fills it from below upwards, so that if time be allowed, the whole cylinder, from bottom to top—not from top to bottom—is distended with the gravitated matter. But in this case the bottom of the tube contained but a small portion of mud, the middle of it was empty, and the upper part completely distended. No one, I apprehend, ever found the lowest part of a bottle filled with a particular semi-fluid substance, the middle of it empty, and the neck stuffed with matter similar to that found at the bottom. If, however, we adopt the theory of the medical reporters, we can readily account for the appearances found in the case under consideration, so very unlike those which are produced by the merely physical act of gravitation. The mud being forced into the mouth during life, a portion of it was swallowed during the convulsive struggles of death, and thus was the stomach filled in part, but simultaneously with the extinction of life departed the power of deglutition, and thus the œsophagus—arrested in the very act of performing its function—became impacted, while between it and the stomach there remained a distinct hiatus, which unaided gravitation was unable to fill.

As tending still further to support the theory advanced as to the cause of death, I might now insist upon the absence of disease in every organ of the body but the lungs and the brain,—might ask our opponents to point out a cause of natural death, and might dwell upon the heartless, revolting, and anti-national mode of interment, so unlike that which is had recourse to, even by the lowest orders of Scottish society, in cases of ordinary bereavement. But as these could only be viewed in the light of auxiliary confirmations —of themselves proving nothing—I prefer calling the attention of the Society, in a very few remarks, to certain non-medical circumstances, which awaken strong suspicions that a male child had been murdered in the quarry referred to, a few days before the body of the child we have been speaking of was discovered. On this part of the subject I shall be very brief, and for obvious reasons must deal in generalities only. Toward the end of last May a female was apprehended who had been delivered of an illegitimate, stout-made, healthy son, early in the previous March, but which child has never been seen alive, at least in this neighbourhood, since about the middle of that month. When spoken to on the subject of her admitted parturition, she was perfectly unable to recollect at what period she had been delivered; her sister, in whose house she had been confined, was equally oblivious, and the husband of the latter, after giving the real period of the birth of the child, endeavoured, on a subsequent occasion, to fix that event to a month later than it actually occur-

red; that is, to about a fortnight *after* the body of a child had been found in the quarry on the banks of the Kelvin. But, notwithstanding the conveniently bad memory of the mother, and the tortuosities of her interested relatives, it was proved, beyond a doubt, by the attending midwife, and some of the neighbours, that the woman in question had been delivered early in March, as stated above, yet up to this hour she has failed to produce the child, which, according to her own account, she disposed of in the following manner. After taking the wise precaution to state, that the father of the child was a farm-servant, and a member of that rather numerous and widely diffused clan which acknowledges the great Duke of Argyle as its feudal head, she declared that, on the afternoon of the day on which the child was born, she happened to meet her paramour on the street, and she told him that she thought the child would be born that night; and that, if so, she expected that she would be able to meet him with it at —— that day fortnight! Accordingly, true to her obstetric prognosis, the child was born that night; true also to her promise she met her lover at the place and time appointed, and delivered to him his child, but since then she has never seen or heard of it; since then she has never seen or heard of its father, who, she says, departed for the neighbourhood of Campbelton; but, though within the last three months the officers of justice have waited on all the labouring men in the district of Kintyre, known to bear the name and surname of the present lord of the house of Argyle, yet strange to say, these all disclaim any knowledge of the female in question, and ungallantly decline the honours of the proffered paternity. But the most damning circumstance in this tale of blood regarding the guilt of this woman has yet to be told. On a night about the middle of that very March in which she had been delivered, she was seen by some of the neighbours leaving her house with her child alive and well; in about two hours thereafter she was seen by the same parties returning without the child; on that occasion she was clothed in apparel that was particularly spoken to by her sister and the neighbours, though she herself described it as being totally different; on that very night, and about the very time that she was absent from her sister's house, a female saw a young woman (dressed precisely in the manner described by the neighbours and the sister,) enter the quarry by the Kelvin, carrying in a concealed manner what appeared to the former to be a child.

Many other circumstances might be detailed calculated to confirm our suspicions regarding the guilt of this woman; all of which circumstances were transmitted to the proper quarter, but, in consequence of the impossibility of identifying the child after the lapse of two months from its death, and the inability also of the witnesses to speak to the identity of the clothes found on its person, the case was abandoned, and the woman set at liberty. Thus have I endeavoured to establish that a child was murdered, and murdered, so

far as I am aware, in an unparalleled manner; and I further submit, that the Society has been furnished, if not with legal evidence, at least with grounds for entertaining a strong moral presumption, that the murderer has been in custody, but that from a deficiency in strictly legal proof, she has escaped from the punishment of an earthly tribunal.

ARTICLE III.—*Case of Avulsion of the Left Arm and Scapula—Recovery of the Patient: with Remarks. By* ALEXANDER KING, M.D., *Member of the Faculty of Physicians and Surgeons of Glasgow.*

(Read before the Medico-Chirurgical Society of Edinburgh, 22d January 1844.*)*

A STOUT well-formed boy, aged fifteen years, took shelter from a shower of rain in a grain-mill on Thursday, the 10th of October 1843. While amusing himself watching the rapid motion of two wheels, seven inches in circumference and one and a half in thickness, connected above by a *tackle* or upright shaft of cast iron, and revolving between two strong beams of wood, ten inches asunder,—the little finger of his left hand became accidentally entangled among the teeth, and (after an attempt to extricate it, by which the right hand was slightly injured), the whole extremity was rapidly dragged inwards. His screams having attracted the attention of the workmen, the machinery was immediately stopped, when he was found standing by the wheels, almost in a state of complete nudity, and without his left arm and shoulder-blade, screaming aloud that his head was torn away. Shortly afterwards his chin dropped on his breast, and he lay for a few seconds as if in a faint; but when his clothes (which with the mangled limb were entwined around the upright shaft) were being separated from the fragments left on his person, he instantly roused, and complained in forcible terms of harsh treatment. Not a single drop of blood was observed to flow from the extensive and ghastly wound; and according to the opinion of several spectators, there were not more than two ordinary-sized tea-cupfuls scattered over the machinery, the floor of the apartment, and the body clothes;—a statement which, from the examination of the stains some days afterwards, I am inclined to consider pretty correct. He was enveloped in a linen sheet, and carried a distance of about half a mile, to his father's house. When seen by a surgeon, in about half an hour after the accident, he was found lively and collected, and with an expression of countenance by no means indicative of suffering or constitutional depression; the pulse was 75, and firm, and the surface of the body was of the natural temperature. On removing the sheet, which was merely moistened with blood where it covered the lacerated surface, a jagged and very irregular wound, commencing an inch from the sternal extremity of the *left* clavicle,

was found to course along the under third of the neck, and from thence downwards, forwards, and backwards, terminating at the fourth false rib anteriorly and laterally, and three inches on the *right* side of the upper portion of the dorsal division of the vertebral column posteriorly.

The loss of integument was chiefly behind and below the situation of the left clavicle. The muscles on the front and side of the chest, with the exception of a very few fibres, were removed, exposing the intercostals; they had been dragged from their thoracic attachments, leaving the skin loose and puckered, as if too ample for the subjacent textures. No fragment of the scapula could be discovered in its situation. The clavicle was drawn downwards and forwards, but maintained its connexion with the sternum. The axillary artery projected from beneath the displaced clavicle, to the extent of two inches and a half, and pulsated strongly to within an inch of its orifice, but gave exit to no blood. On a minute examination of the torn orifice, the external coat of the vessel was found to be divided into three irregular pieces, which encircled each other, and held in their embrace a small coagulum of blood. There was no venous hemorrhage, and no large venous trunk was discovered. The nerves were torn at irregular distances, varying from three to five inches from the surface of the wound; their extremities were greatly attenuated, and the slightest irritation gave rise to most acute suffering.

The artery was secured with a ligature;—about two inches of the projecting portion of the clavicle were sawn off;—the integuments were drawn together by means of adhesive plaster, and made to cover, without any stretching, the vessels, nerves, and indeed the whole wounded surface, with the exception of a small irregular portion near the spine, about three inches in circumference.

The reaction which followed this formidable laceration was very trifling; indeed, not a single unfavourable symptom manifested itself during the whole treatment. The pulse was 130 on the day after the occurrence, and continued for several weeks even higher; but the removal of so large a portion of the body seems sufficient to account for the increased rapidity of the circulation, and its peculiarities in other respects were never unfavourable. I saw the boy on the 10th day after the accident; he was then lively and cheerful, with a cool skin, a clean tongue, a good appetite, and the pulse 136, soft, and of moderate strength; the integuments, which had been brought over the face of the nerves, and several portions of the ragged margins of the wound, had separated by sloughing, but healthy granulations were springing up on all sides. The plexus of nerves, which had become exposed to the extent of three inches, lay together in a mass, and were partly sphacelous; but when touched by the dressings, or otherwise, the boy manifested a degree of terror I have seldom seen equalled, and declared he would sooner perish, than allow any interference. The ligature

lay in contact with the nervous mass, and in consequence of the extreme sensibility of the part, was allowed to drop off with the sphacelated nerves, about the middle of the sixth week, after the boy had been walking about for some days in perfect health.

Dissection of the Extremity.—The relations of the boy kindly afforded me an opportunity of dissecting the limb, and the following note was taken at the time. The preparation is to be seen in my possession.

"The third phalanx of the little finger is torn away, and the tendons are lacerated and exposed. There is a wound, skin deep, at the middle of the fore-arm, underneath which the radius is fractured; near the middle of the arm there is another lacerated wound, with a fracture of the humerus, but here also it is quite superficial. The integuments covering the outer side of the head of the humerus are entire, but on the inner and anterior surface of the bone they are completely removed, and the nerves and blood-vessels are exposed. The nerves are separated into small bundles, and have very much the appearance of pieces of cord torn asunder by violence; they vary considerably in length, the longest measuring 5½, and the shortest 1 inch, from the shoulder-joint. The artery is torn directly across about 2 inches on the distal side of the shoulder-joint, and has the appearance of a vessel severed with a cutting instrument: on laying it open longitudinally, the internal and middle coats are found slightly retracted and puckered. The acromion and coracoid processes of the scapula are entire, but the other portions of the bone are so mutilated and crushed to minute fragments with the surrounding muscles, that they cannot be distinguished from each other."

Remarks.—This case presents several features of interest.

Firstly, The constitutional depression, or *shock*, consequent on the removal of so large a mass of the body in so rude a manner, was very trifling. The boy, no doubt, fell into a state of apparent syncope, but that the stupor was never profound is sufficiently proved by the facility with which his mental powers were recalled into active operation. In this respect the case is by no means singular; indeed, the recorded instances of extensive laceration tend to prove that the removal of a limb by avulsion is, occasionally, productive of even less shock than by a dexterously executed surgical operation, in proof of which I may briefly allude to the cases I have been able to discover on record.

Belchier states, in his "account of the man whose arm, with the shoulder-blade, was torn off by a mill," that "at the time the accident happened, he says he was not sensible of any pain, but only felt a tingling about the wound, and being a good deal surprised, did not know that his arm was torn off, till he saw it in the wheel: when he was a little recovered, he came down a narrow ladder, to

the first floor of the mill."[1] Mr Carter states, in the "Case of a boy whose left leg and thigh, together with part of the scrotum, were torn off by a slitting mill," that when he attended, which was immediately after the accident, he found him lying on the floor, covered with a blanket, and seemingly free from pain, or any anxiety farther than what appeared to proceed from the trouble his parents were in, in consequence of the accident."[2] M. Benomont narrates the case of a boy, aged 9, who had his leg torn off at the knee-joint, by the wheel of a carriage, and whose only source of annoyance after the occurrence was the reprimand, which he believed he merited from his parents."[3] In "The case of the humerus of a child, aged 11, torn from the scapula by a mill," the narrator, Dr Clough, informs us that "she had sufficient strength to walk across the court from the coach to the hospital, being nearly the distance of 32 yards."[4] In two of the cases, the details are very meagre and imperfect, and we are not furnished with any account of the patient's condition immediately after the injury.[5] In the following instance the constitutional depression appears to have been very alarming. A child had the left arm torn off by a mill, and after the injury "she recovered a little, was sensible, and spoke readily. In less than an hour she was found, though losing no blood, to all appearance dying. The extremities were cold; pulse very low and tremulous; convulsions over the whole of the right side of the body and face."[6]

These cases are not sufficiently numerous to warrant any very definite conclusions, but there certainly appears to be generally much less constitutional disturbance or shock after such formidable injuries than could *à priori* be conceived. In all the cases the avulsion appears to have been accomplished with extreme rapidity, in consequence of the speedy revolutions of the machinery; and this I think is the most feasible cause of the comparative immunity from suffering and irritation. It must however be granted that cases of trifling laceration attended with severe depression, are undoubtedly of daily occurrence, even when the injury is quickly inflicted, so that while I believe that much depends on the manner in which the injury has been sustained, the constitutional idiosyncracy of the sufferer must have also much influence.

Secondly, The quantity of blood lost by this patient was very trifling, probably not more than was contained in the vessels of the limb at the time of the occurrence. The absence of hemorrhage has always been regarded as the most characteristic peculiarity of this description of injury. It does not appear

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[1] Philosophical Transactions, vol. xl. p. 313.
[2] Medical Facts, vol. ii. p. 18.
[3] Hist. d'Acad. de Chirurgie, tome ii. p. 79.
[4] Memoirs of the Medical Society of London, vol. iii. p. 519.
[5] Traité complet des Accouchemens, par M. De La Motte, Obs. ccccxli: New York Journal of Medicine, vol. i. p. 284.
[6] Mr Carmichael's case. Medical Commentaries, vol. v. p. 80.

that blood was lost to an injurious extent in any of the cases I have had an opportunity of consulting; indeed, there is positive negative evidence to the contrary, except in the case of Wood, narrated by Belchier. In the narrative of that case, it is stated, that the patient "being quite spent by the great effusion of blood, he fainted away, and lay on the ground; they immediately took him up and carried him into the house, and strewed a large quantity of loaf-sugar powdered upon the wound, in order to check the blood till they could have the assistance of a surgeon."[1]

Various theories have been promulgated, from time to time, to account for the absence of bleeding in such cases. The method followed instinctively by some of the lower animals—dogs for instance—to prevent hemorrhage from the cord at the period of parturition is familiarly known. By means of their teeth they separate the cord by gnawing it into pulp, and the efficiency of this plan is abundantly proved by the fact, that the loss of blood to the injury of either parent or offspring, is altogether unknown amongst such animals. Since my attention was attracted to the subject, by the occurrence of this case, I have had several opportunities of examining the cord after being separated in the manner described. On dissection, two conditions calculated to prevent hemorrhage are discovered; in the *first* place, the soft pulpy matted state of the orifices appears to oppose a sufficient barrier to the escape of at least the venous blood; in the *second* place, the internal coats of the artery are found lacerated, and partly separated at numerous points, and diminishing the calibre of the vessel. These lacerations are probably owing to the inner coats yielding to the pressure of the tusks, while the more elastic external coat resists their power. Nature seems to guard against the consequences of laying open arteries by laceration, by means very similar, as has been most satisfactorily established by an experiment on a living animal by the late Dr Jones.[2]

The arterial tunics being possessed of different degrees of extensibility, the comparative inelastic and brittle internal coats give way at many points before the more resisting external covering is injured, and when the complete separation of the vessel is effected, there are the irregularities of the internal coats, (which have been proved by dissection to fill up near the whole tube,[3]) and also the elongated conical narrow orifice of the external coat resisting the force of the circulation, and tending to promote coagulation. In the experiment by Dr Jones, already referred to, the horse was destroyed 18 hours after the operation, and on examining the vessel, "its internal coat had been lacerated in numerous parts, and at every laceration there had been an effusion of lymph, to which the internal

[1] Loc. cit. p. 314. Cheselden in his account of the same case says the vessels bled very little.—*Anatomy of the Human Body*, p. 321.

[2] Jones on Hemorrhage, p. 42, cap. xii.

[3] Costello's Encyclop., part v. art. *Avulsion.*

coagulum adhered. In this instance, contrary to all the preceding and subsequent experiments, the internal coagulum appears to have had some share in the security against hemorrhage, but only in consequence of the injury done to the internal coat of the artery."

Dr Jones himself may not have appreciated, to the full extent, the influence of the torn condition of the internal tunics in controlling hemorrhage in cases of laceration, but another writer called attention early to the fact, which had been so prominently brought to light by his invaluable labours. Dr Thomson, in his lectures on inflammation, after minutely describing the condition of the vessels in a part removed by laceration, states, "This is a state of arteries which has been first accurately ascertained by Dr Jones in his experimental investigations."[1] The merit of this explanation, which is now generally received as correct, has therefore been erroneously assigned in a recent surgical treatise[2] to Béclard, who, it will be recollected, did not publish the account till after the appearance of Dr Thomson's work.[3]

Treatment.—The resistance to the flow of the blood, presented by the condition of the vessel, in the case I have detailed, would have proved, in all probability, permanently efficient; but nevertheless, the application of the ligature was safe and judicious practice, and ought to be followed whenever the vessel can be discovered without injurious cutting or laceration. It is worthy of remark, that deligation of the vessels was practised in only two of the cases I have seen on record,—in Carmichael's and Denomont's, and in the latter, only after amputation of the limb above the site of the injury.

The nerves, which were exposed and torn into fragments, I conceive, would have been advantageously removed at the first dressing. It is well known that the torn extremities of nerves frequently give rise to much excruciating suffering, even after the wound is healed,—an occurrence comparatively rare when they have been divided by the knife. There is also reason to believe, that had such procedure been adopted in this instance, the immediate suffering, as well as the risk of life, would have been greatly lessened.

Lacerated and contused portions of cellular tissue and muscular fibres ought to be removed with the knife, so as to avoid the annoyance and danger of sloughing or profuse suppuration, but in this instance none remained. There is reason to believe, that had Carter attended to this part of the treatment, the result in his case would have been more fortunate. In a case already referred to, which occurred in America, and is detailed by Dr Cooper, the inferior half of the scapula was dissected out with the knife, but on what ground does not appear evident.

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[1] Thomson's Lectures on Inflammation, p. 251.

[2] Costello's Encyclop. loc. cit.

[3] See Turner's valuable paper on this subject in the Transac. of Med.-Chirurg. Soc. of Edin. vol. ii.

Prognosis.—These cases appear to justify a very favourable prognosis; but it must be recollected that while fortunate cases are sure to find their way into circulation, those of an opposite character are equally certain to be allowed to fall quietly into oblivion. Exclusive of the instance here detailed, allusion has been made to three cases of avulsion of the arm and scapula; two of the arm; one of the leg, and one of the thigh, all of which, with the exception of the last, recovered without unfavourable symptoms. In the fatal case, as has been already hinted, the treatment does not appear to have been very judicious.

33 NORTH HANOVER STREET, GLASGOW,
Jan. 10, 1845.

ARTICLE IV.—*Case of Poisoning with Corrosive Sublimate. By* JAMES ANDREW, M.D., F.R.S.E., *Fellow of the Royal College of Physicians of Edinburgh.*

(Read before the Medico-Chirurgical Society of Edinburgh, 22d January 1845.*)*

THE following are the particulars of a case which came under my charge lately, in the Royal Infirmary of this city, when acting for Dr Cormack :—

Margaret M'Leod, aged sixty-five, by occupation a washerwoman, was admitted into the Royal Infirmary on the night of Saturday, the 28th September 1844, at half-past eleven o'clock, in consequence of having drank some whisky, which, unknown to her, contained a solution of bichloride of mercury. The history of the case, given by her on her admission, and subsequently, was, that she had been all that day pursuing her employment at the house of an artizan in the neighbourhood of the Cowgate. That betwixt four and five o'clock in the afternoon she took her tea with the family, and then continued to work until past ten o'clock, without tasting any other kind of sustenance. At this time the mistress of the house (who was the only person then in the room with her) proposed, as she had had a hard day's work, that she should take some whisky, and produced at the same time from a press in the room a six-ounce bottle full of spirits. One half of the contents were poured out by the mistress into a cup, and given to the washerwoman, who swallowed the whole at a draught. As soon, however, as she had swallowed the spirits, she perceived a very peculiar and most disagreeable taste in her mouth, succeeded in two or three minutes by so great a sensation of nausea, that she was obliged to go to the door, where she vomited. Owing, however, to the darkness of the night, she could not see what was the appearance of the matters vomited, but she was sure the quantity was not great. On coming back, she found that the master of the house and some lodgers had come into the room from an adjoining apartment, to ascertain what was the matter. To these she observed, that she feared she had taken something dangerous, as she was suffering acutely from a burning heat in the throat and stomach, particularly the former. The people of the house immediately went away in quest of a doctor, and also to get an emetic. As soon as the medicine was procured, she took it, and afterwards some warm water. This produced vomiting, but no relief to the pain of throat and stomach, which continued to increase. There was also a sense of distention of the abdomen, her clothes appearing to be all too tight for her. At this period she was seen by a medical man, who did not, however, adopt any remedial measures, but recommended her to be immediately removed to the Infir-

mary, whither she walked, supported by the people of the house. One of these, on the woman being admitted into the hospital, told my clerk, (Mr Logan), that he was a lodger in the house where the accident occurred; that the bottle from which the whisky was taken was his property, and that it contained an alcoholic solution of bichloride of mercury, which he was in the habit of using for the cure of a syphilitic affection from which he suffered. He was thereupon desired to bring the bottle containing the residue of the spirits to the hospital, which he did the following morning, and the same was afterwards submitted to Dr Douglas M'Lagan for analysis. On admission into the Infirmary, one hour and a half after the occurrence, she complained of great weakness and exhaustion, a severe burning pain in the throat, with difficulty of swallowing, pain of epigastrium, abdominal distention, and much tenderness on pressure. There were frequent attacks of retching and vomiting, the pulse was small, frequent, and irregular, the countenance pale and anxious, the fauces much inflamed, the tongue and tonsils a good deal swollen, and a great coldness pervaded the whole body. The whites of ten eggs were immediately administered, after which she vomited a very small quantity of what appeared to be dark bile mixed with albumen. After this the vomiting ceased, and the pain of the epigastrium began to subside. She was now put to bed; and as the general coldness still continued severe, she was ordered bottles of hot water, as also sinapisms to the feet, and additional blankets. On the 29th, at seven in the morning, she complained again of severe pain in the stomach, accompanied by purging, bloody stools, and much thirst, but no vomiting. The pain of the throat was not so severe, and there was much less difficulty in swallowing. Eighteen leeches were applied to the epigastrium, and a sinapism over the lower part of the abdomen; at the same time she was allowed as much sweet milk as she chose to drink. These measures afforded her considerable relief during the day, but in the evening it was found necessary to apply another sinapism. The pulse this day was 92, and feeble, tongue white, and countenance rather flushed. The 30th she feels better, but the bloody stools still continue. The urine is, and has been all along, freely secreted, the pain has left the epigastrium, but is much complained of in the rectum; the gums begin to feel sore; pulse 88. A dose of castor oil was ordered to be taken, and some leeches to be applied to the perineum; to have beef-tea as well as milk. *October* 1. Feels no pain either in the epigastrium or rectum; the stools are free from blood; pulse 88, weak; complains a good deal of exhaustion; the gums are quite spongy, and the teeth loose; to have a little castor oil. 2*d*, No return of any pain; is improving. 4*th*, Symptoms of salivation are declining; appetite is good; pulse 76, of better strength; evacuations natural. 6*th*, The only complaint is weakness; the gums are almost well. She was so importunate to be allowed to quit the house, that this afternoon I discharged her. As I have since seen and heard of the woman several times, I may mention, that for three weeks after being discharged, she continued weakly and unfit to work, but has now regained her strength, and is as well as before the accident happened. Dr Douglas M'Lagan, on analysing the whisky that remained in the bottle, found that each fluid ounce contained exactly 16·3 grains of corrosive sublimate, and that consequently the woman must at least have swallowed 40 grains of the poison. This certainly appears to be a marvellous strong solution for medicinal purposes, but quackery is, and always has been carried to such an excess, that no one can imagine to what extent persons ignorantly treating themselves may proceed. From the history of this case, it appears to me that a great portion of the poison must have been parted with by vomiting, previous to the woman's admission into the Infirmary. I think so because throughout the whole case there were no symptoms of suppression of the urine, nor of any cerebral affection,—symptoms which, though not always, are generally present. Also because a small quantity of any irritant poison, swallowed on an empty stomach, will produce as great effects upon it as a larger quantity on a full one,—the stomach, in the former case, being always in a state much more susceptible of injury than in

the latter. And lastly, because I can hardly imagine that the albumen of ten eggs and the other treatment adopted in this case, would have afforded such relief as it did, if the whole 40 grains had remained on the stomach.

38 MINTO STREET, EDINBURGH,
2d January 1845.

ARTICLE V.—*Contributions to Pathology. By* D. ROSS LIETCH, M.D., *Leamington Spa.* (With a Plate.)

NO. I.—MALFORMATION OF THE GENITAL AND URINARY ORGANS IN A MAN.

ON the 12th November 1840, I had an opportunity of examining a singular case of malformation of the above nature, in the person of a man named Michael Bentley, aged 39, of Tynemouth, Northumberland.[1]

The drawing of the external parts is made from a cast taken after death; and the kidneys, ureters, &c., were sent at the time to the Editor of this Journal. The man died after fracture of the femur extending into the knee-joint, a circumstance which explains the flaccid appearance of that limb in the drawing. The body was slight and effeminate; there were beard and whiskers, but only a few scattered hairs on the pubes. His voice had been weak and rather shrill.

There was no appearance whatever of a penis. The man declared that he had once possessed something of the kind, but nothing remained to corroborate the statement. As in the case of Highmore's boy,[2] referred to by Dr Duncan, in the first number of the *Edinburgh Medical and Surgical Journal*, 1805, "all was entire and smooth" from the orifice of the ureters to the anus. The testicles were small but natural. Similar to the cases mentioned by Dessault, Knox, and others, they were contained in folds of the skin near the pubes. As is almost universal in these malconformations, the bones of the pubes were separated to a considerable distance from each other, the interval being filled up by a broad strong ligament for the support of the abdominal viscera. In the present instance, the symphysis and descending rami of the pubes were wanting. This separation explains the largeness and flatness of the pelvis, as seen in the engraving. By separating the acetabula and thighs to a greater distance than usual, it rendered the man's walk less firm than common, and produced a rolling of the body from side to side, a peculiarity in his gait which I had often noticed before being aware of its cause. The same separation of the bones of the pubes places the anterior spines of the ilia further apart, and renders them more protuberant than usual; it also throws the

[1] A short account of the case of Michael Bentley, having been read before the Societé Médicale of Bourdeaux, was some months ago reported in the *Journal de Médecine* of that city, whence a notice of it has been copied into the *Gazette Médicale* of Paris.

[2] "In quo a partu nullæ unquam apparuerunt partes quibus sexus distingui potuit, sed omnia glabra et nitida usque ad anum apparuerunt."

spines of the pubes forwards, so that the testicles which lie upon them, look very prominent, all of which peculiarities may be observed in the drawing. The anus was thrown so far forwards, that there could scarcely be said to be any perineum. The rectum formed a large curve in the pelvis. A slight umbilical scar was visible low in the hypogastric region, about an inch and a-half to the right of the urinary orifice. No trace of the corpora cavernosa could be discovered, nor was there any appearance of scrotum. The cellular membrane between the testicles, instead of being spongy, was very firm and compact. The epididymis on both sides was very observable, terminating naturally in the vasa deferentia, which, after a brief course, expanded into the vesiculæ seminales, and there, with the prostate gland, were attached to the posterior part of the conjoined ureters. Certain minute orifices, into each of which a bristle could be thrust, appeared near the mouth of the urinary passage, and these seemed to have given exit to the seminal fluid. There was abundant proof that the man had possessed the sexual appetite.[1] The ureters, as they terminated at the lower portion of the abdomen, were of course longer than usual. The *left* kidney was nearly natural,—the pelvis, however, was more capacious than usual, and the ureter on that side was slightly increased in its calibre. In the *right* kidney the cortical substance had disappeared, and the organ presented the appearance of a globular membranous bag, the sides of which, as well as those of the corresponding ureter, were thick, firm, and condensed in their structure. The *right* ureter was 12 or 14 lines in diameter.[2] About an inch and a half from its termination on the surface of the abdomen, it was contracted so as to perform the office of a valve. Muscular fibres could be traced at this portion of the ureter.

Though the urine had continually dribbled away from the unfortunate patient, he declared he was able to expel it from time to time in considerable quantities, and although, from his extreme sensitiveness on the subject, I was never able to see this done, I think there is little reason to doubt the statement, for the right kidney and ureter were found after death filled with urine. It is probable, therefore, that the water which continually trickled from the orifice, came altogether, or in great part, from the *left* kidney, as it was secreted, there being nothing in the corresponding ureter to obstruct its flow; but that the valve at the lower part of the *right* ureter enabled him to retain the urine in that distended canal, and the capacious pelvis of the kidney, for some time, and that by the pressure of the abdominal muscles the contractility of

[1] He had been more than once seen with a woman who was attached to him, in circumstances which proved the above statement; and the banns had been at three separate and distant times proclaimed in the parish church between them. Even till the last, I was informed, the woman was willing to marry him.

[2] Sir Astley Cooper published a case in which one of the ureters,—the right, if I remember correctly,—was as large as the rectum.

the membrane at its valvular portion was so far overcome as to permit the discharge of the collected fluid. It seemed to me to be a very curious and admirable instance of the ingenuity of nature in compensating original deficiency of structure.

There was not the slightest trace whatever of the urinary bladder, but the ureters terminated at their point of junction on the skin above the pubes.

The rest of the viscera presented nothing remarkable.

The circumstance which alone, perhaps, renders the above case worthy of record, is the entire deficiency of the bladder. In the cases of which I have seen any account, there was always a red spongy mass of greater or less size,—the posterior portion, in fact, of the bladder, in which the ureters terminated. The above case furnishes another proof that the organ is merely one of convenience and comfort: and it is an additional fact to show that the structure of the neighbouring parts is affected in an almost uniform and definite manner in deficiencies of the urinary bladder.

NO. II.—CASE OF EXTRA-UTERINE FŒTATION AND STONE IN THE BLADDER.

In March 1841, a woman named M. Hutchison, aged 46, presented herself to me for the purpose of having a stone extracted from her bladder. I had known her for some time, and was aware that she was a wretched dissipated creature, who lived in a damp squalid apartment, and was frequently in want of the necessaries of life. She was weak, feverish, and emaciated; she complained of an incessant pain and weight in her loins; of incapability of retaining her urine; grinding pains in the region of the bladder; pain and weight in the thighs; shiverings, vomitings, disordered bowels, &c. Having assured myself of the presence of a stone in the bladder, I tried to get her system into a better state, before making any attempt to remove it. She at first rallied a little, but in a short time the pains became more severe in the loins and region of the bladder, the diarrhœa became incessant, and she sank exhausted about nine weeks after her admission into the house.

The post-mortem examination showed the bladder very much thickened and contracted, with many deep round ragged ulcerations. A stone of an unusual shape lay in the cavity. It was nearly the size of a pigeon's egg, but elongated, and very rough at the smaller end. In the right iliac fossa, I found a hard round substance, which, on examination, proved to be the head of an extra-uterine fœtation—the bones of the head, about the size of a small orange and flattened; the ribs, and bones of the extremities, were lying in a confused mass below.[1]

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[1] It presented precisely the appearance described in an article on Extra-Uterine Conceptions, in the *Journal des Connaissances Médico-Chirurgicales*, Janvier, 1837, p. 10. "Un autre état dans lequel le fœtus s'est presenté dans les grossesses extra-uterines c'est une sorte de momification,—un desséchement complet, par suite du quel il occupe le moins d'espace possible pour un être de son âge et sa taille."

The earthy matter of the bones seemed alone left; they were dark coloured and extremely brittle. There was no pus nor dark bloody-looking matter, as is usual in the cavity containing the remains of the fœtus. The left Fallopian tube was natural,—that on the right side was undistinguishable. The fœtus had evidently been originally developed in that canal. The parts around this singular structure were all matted together; on one side the sac adhered to the iliacus internus muscle, and on the other the walls were like those of an old chronic abscess. One of the bones of the fœtus, the left femur, projected against the fundus of the bladder, and on closer examination, there was found a small ulcerated opening into that organ, at the point where it was touched by the projecting bone. Had the woman lived a little longer, this bone would doubtless have found its way into the bladder. The other organs presented no appearance of interest.

The singular shape of the stone excited surprise, and suggested that its nucleus might have been formed of one of the bones of the fœtus. On sawing it across, this opinion was found to be correct; for the saw had divided one of the tibiæ which lay in the centre of the calculus.

I have preserved the whole of the parts. I found the stone to consist of the triple phosphate, with a portion of mucus and animal matter.[1]

I could not procure a very satisfactory report of the patient's previous state; but I learned that about three years before her application to me, she had given a medical friend of mine a piece of dark solid matter about the size of a small bean, which she said had come from her bladder. It had exactly the appearance of a piece of coal; but little attention was paid to the circumstance. For some time before the period alluded to, she had suffered from the pain in the loins, &c., and though for a considerable period her sufferings were mitigated, it seems quite certain that the fœtus had been lying for at least four or five years in the position in which it was found after death.[2] The above case, though

[1] Having subjected a portion of the calculus to the examination of Mr Dick, chemist, of Leamington, he favoured me with the following analysis :—

"Triple phosphate of ammonia, magnesia and lime, with a small portion of animal matter.

"Soluble in diluted nitric and diluted hydrochloric acid, (without effervescence) except some flocculent animal matter.

"Insoluble in potash.

"Partly soluble in cold acetic acid, and reprecipitated by ammonia. Heated before blow-pipe, it gives off ammonia and phosphoric acid, and melts into a pearly bead with difficulty, which reddens moistened turmeric paper, indicating an alkaline reaction.

"Before the blow-pipe, the particles on the edge become very brilliant, indicating the presence of lime.

"It also becomes a black mass before changing to the pearly bead."

[2] In the *Dictionnaire des Sciences Médicales*, 1817, tome 19, p. 409, some extraordinary cases are noticed in which fœtuses remained 20, 30, and even 50 years, "dans le sein de leur mére." Instances of new conceptions which terminated in delivery at the usual period in the cases of women who already bore about with them extra-uterine fœtations are also given.

extremely rare, is not unique. Many cases have been recorded in which the bones of an extra-uterine fœtation were thrown off by the abdominal integuments, by the vagina, and by the rectum. The only case similar to the above of which I have heard, is recorded by Morlanne in the *Recueil Period.*, tom. 13, p. 70, in the following words, " La matière etrangère servait de noyau à un calcul; par une opération semblable à celle de la lithotomie on fit l'extraction de deux pierres et de cinq portions d'os du crâne." Such cases afford curious illustrations of the perseverance, and as it were, resolution of nature in her attempts to throw off from the system foreign and injurious bodies.

DESCRIPTION OF FIGURE I.

A. Orifice of the conjoined ureters.
B. Umbilical scar.
C.C. Testes covered by skin similar to that of the abdomen, with a few scattered hairs; no trace of dartos, cremaster, nor scrotal integument of the usual texture.
D. Anus thrown forward.
E.E. Spines of the ilia, projecting much, as is usual in such cases, from the effect of the separation of the bones of the pubes.

FIGURE II.

A. Prostate gland covered with cellular tissue, &c.
B. Orifice of the conjoined ureters, a little slit open.
C.C. Testes; cord very short.
D. Kidneys;—the left nearly natural; the right altered in structure, the cortical part being absorbed, the pelvis enlarged, and the whole presenting the appearance of a membranous bag.
E. The ureters:—the left nearly natural; the right very much distended, and supplied with a species of valve, so that this ureter, together with the kidney, acted in some measure as a supplementary bladder.

FIGURE III.

The ureters joining together at an acute angle, terminating in an orifice on the pubes, without any cavity whatever for the reception of the urine in the usual position of the bladder.

FIGURES IV. AND V.

Sections of a stone found in the bladder of M. Hutchinson,—the nucleus of which is seen to be the tibia of an extra-uterine fœtation,—as described in No. II.

Article VI.—*Clinical Lectures on Midwifery and the Diseases of Women and Children. By* J. Y. Simpson, M.D. Edin., F.R.S.E., *Professor of Midwifery in the University of Edinburgh.*

(Taken in short-hand by Charles D. Arnott, Esq., Student of Medicine.)

Lecture I.—Case of Crossbirth;—Investigation into the best Method of Turning;—Recommendation to seize the higher or opposite knee of the child for this purpose;—Mechanism of pelvic presentations;—Peritonitis in the Fœtus;—Permanence of the omphalo-mesenteric band;—Intra-uterine Causes of Death among premature children, and their treatment, &c. &c.

At this, our first clinical meeting, I propose to offer a few observations on the instance of transverse presentation, and turning, which you witnessed in the Maternity Hospital two days ago.—First of all, allow me to read to you the case as it has been reported by my excellent friend Dr Martin Barry.

"Christina Anderson, aged 28, married,—third pregnancy,—last catamenia in the beginning of March, continuing for two or three days,—time of quickening uncertain.

"On the morning of Saturday, 7th December, had a fall, in which the left hypochondrium was violently dashed against the corner of a large stone; says that she did not feel the movements of the child for longer than a day or two after this. On Tuesday the 17th,—ten days afterwards,—the child, when born, presented the separation of nearly the whole cuticle, with sero-sanguinolent infiltration of the scalp, and a state of looseness of all the cranial bones.—The abdomen was swollen, and on laying it open the spleen was found much enlarged, and patches of coagulable lymph were seen on its peritoneal surface; similar patches were present in the iliac and pelvic region connecting the peritoneum of the abdomen with that of the intestines; other portions of a similar inflammatory effusion were scattered over the intestines, more especially in the lower part of the abdomen.

"Labour commenced on Monday, 16th December, and was completed in 17 hours.—The membranes ruptured twelve hours before the full dilatation of the os uteri.

"During the labour the patient was bled and had an ounce of antimonial wine exhibited in ℥ss doses, to promote the dilatability of the cervix uteri.—Shortly before turning, ℥i of laudanum was exhibited, in order to moderate the uterine contractions, and facilitate the process of turning.

"The presentation was the right shoulder with the cord, and the child was removed by turning and extraction. This was performed by Professor Simpson, who, observing from the feet and legs, when they had been drawn down, that the position of the pelvic extremity of the child corresponded to the third position of the head with the toes pointing forwards, stated that the body as it came into the world would present a corresponding movement of rotation,—a movement forthwith seen by the writer and several others who were present.—The head was then born in the second or right occipito-cotyloid position."

Most of you are aware, that we cannot—except in the rarest cases—leave instances of shoulder presentations to nature. Experience abundantly shows us, that if we do not offer the required aid in these presentations, the woman, in general, either dies exhausted from the long continued, but fruitless efforts of the uterus to empty itself of its contents,—or the organ, by the violence of its own contractions, lacerates its own structure, and thus establishes one of the most fatal complications to be met with in the practice of midwifery, namely, rupture of the uterine walls. In these presentations, therefore, interference is imperatively required,—and this interference consists in so far altering the morbid position of the infant, that, instead of allowing it to remain with its

long axis across, or at right angles to the long axis of the uterus, we introduce our hand, and bring down to the os uteri one of the two extremities of the *ovoid* mass of the child, (the child in the latter months being, as you know, folded up into an irregular ovoid form), in order to make the long axis of the body of the infant and the long axis of the body of the uterus parallel to each other. For this purpose we may bring down either the cephalic, or the pelvic extremity of the infant.

The cases are few in which it is proper and possible to bring down the head of the child to the os uteri,—or, in other words, in which we can and should perform what is termed *cephalic* turning or version.

In almost all cases—but especially in one like Anderson's—with the child dead, and the passages well dilated, or dilatable, we bring down the pelvic extremity of the infant, and so far change the presentation from one of the shoulder or arm, into one of the breech, feet, or knees.

Many modifications of this last operation—*podalic* version or turning—as it is termed,—have been proposed, and different varieties of it are advocated by different practitioners. By some we are advised, in all cases, to bring down *both* feet of the infant. Others again assert that to bring down *one* is always sufficient. Some advise a foot or feet; others one or both knees.—Let us enquire what method would be the most simple, and most practicable, in a case like the one before us.

I would first, however, remark that in turning, in any case, where the membranes are still fortunately entire—the female passages dilated—and the fœtus perfectly mobile in the liquor amnii—it matters, I believe, little whether we seize one, or both feet, or one or both knees.—All these parts are, under such conditions, so easily reached, and the whole operation of seizure, and version of the child, is then so simple, that it is almost needless to lay down set and formal rules (as some authors have done) for the exact part of the child which you should seize,—and the exact mode in which you should seize that part.—There is so much room to turn, as the child still floats in the liquor amnii, that, if you can seize *firmly*, almost any part of one, or of both of the lower extremities, with the introduced hand, you will readily effect your purpose. The flexure of the knees affords a firmer and better hold than the foot, or feet, and is hence probably preferable. It is, however, I repeat, sufficient, to seize firmly any of these two parts, whichever of them first comes within your reach.

But the operation of version, in a shoulder or arm presentation, becomes a much more difficult, delicate, and dangerous operation, when you require to turn, as in Anderson's case, with the waters already evacuated, and the uterus tonically contracted, and folded around the body of the child.—Under such circumstances, we require to know, and to study beforehand, the easiest method of operating for ourselves, and the most safe mode of operating for the mother.

Let us consider, therefore, what method of turning is the most simple, and the most practicable, under such conditions as I have just stated; and first of all let us inquire,—

SHOULD WE SEIZE BOTH FEET OF THE INFANT?

You see this method of procedure represented in the plates before us of Moreau, and it is a mode which is strongly inculcated by some of our latest authorities in midwifery. "Never be content," says Dr Lee, in his lately published lectures on midwifery, "never be content with one foot, when it is at all possible to grasp both." In most cases, I hold this method to be improper and unjustifiable, because it is almost always more difficult to seize both extremities than to seize one; because one is quite sufficient for our purpose, and more safe for the life of the mother; and because by pulling at one extremity (when pulling does happen to be required after the version is accomplished,) we more perfectly imitate the natural *oblique* position and passage of the breech of the infant, than when we drag it down more directly and more upon the same plane, by grasping and dragging at both limbs equally. The infant also assuredly incurs less risk of impaction of the head, and above all, less chance of fatal compression of the umbilical cord, when the os uteri and maternal canals have

been dilated by the previous passage of the breech, increased in size by one of the lower extremities being doubled up on the abdomen, than when both extremities being seized and extended, these same passages are more imperfectly opened up by the lesser-sized wedge of the breech alone.

Notwithstanding, however, the greater difficulties, and consequently the greater dangers attendant on the operation, when we search for, and grasp both lower extremities, instead of one, it is still so dogmatically laid down as a rule by most obstetric authorities, that many practitioners seem to deem it a duty, not to attempt to turn the child without having previously secured both feet.

About two years ago, I was sent for by an accoucheur, enjoying a deservedly extensive practice, in order to assist him in the operation of turning in such a case as Anderson's. He had introduced his hand, and brought down one foot into the passages. For long he had been attempting to re-introduce his hand into the uterus, for the purpose of seizing and bringing down the remaining foot. His continued efforts, however, had proved perfectly useless, and he requested my attendance under this supposed difficulty. Without endeavouring to effect what he had laboured to accomplish, namely, the seizure and extraction of the retained extremity, I contented myself with dragging at the one foot already protruded, and with it alone pulled down the child without difficulty.

In few or no cases of turning is it proper or requisite to bring down both extremities, unless in the complication of turning under rupture of the uterus. In that case, but in that only, ought we to follow at once this procedure,—and here we follow it because, if we left the other extremity loose in the uterus or abdomen it would be apt to increase the lesion in the walls of the organ, if it happened to get involved in the aperture, or impacted against its edges. In some very rare instances in which, after version by one leg has been effected, and immediate delivery is necessary, the cervix and os internum occasionally contract so forcibly and strongly upon the protruded limb, whenever we drag upon it, as not to allow of a sufficient amount of traction being applied to this extremity without fear of lacerating its structures. In such cases also it may be well to attempt to repass the hand to secure the other extremity, for then by pulling at both extremities together, we incur less chance of injuring them than if we applied the same required amount of force to either of them singly.

SHOULD WE SEIZE ONE EXTREMITY ONLY?

From what I have already stated, you know my opinion, as to this being the proper method of proceeding in almost all cases of difficult turning. The method was long ago spoken of by Portal; and within the present century, Hoffman and Joerg in Germany, and my friend Dr Radford in this country, have severally written on the subject, and upheld, that in *no* case of turning ought we to lay hold of more than one extremity, for the purpose of effecting the version of the infant. I have just pointed out what I conceive to be two—perhaps the only two—exceptional conditions to this general rule.

Another question meets us. Supposing we intended, in turning, to bring down the pelvic extremity of the ovoid mass of the child, *what part of that extremity* should we lay hold of in order to make it the presenting part at the os uteri?

Some accoucheurs have thought, that if we seized and brought down the *breech* of the infant, it would be the safest mode of turning. This method, however, presents so many disadvantages, that it seems now entirely rejected from practice as a common mode of performing version; for it is difficult to reach up to the breech of the child—and it is difficult to take a sufficiently firm hold of it when you have once reached it—and it is difficult when once you have taken hold of it, to perform the evolution or version of the child with such a purchase.

We may limit, then, the part which we ought to lay hold of to the lower extremities, and I have already told you that I believe one extremity suffi-

cient. The remaining question, therefore, is this,—What part of that extremity should we seize upon?

SHOULD WE TAKE HOLD OF THE FOOT OR THE KNEE?

I believe the seizure of the knee to be preferable, in most, if not in all cases, to the seizure of the foot, or rather, as it should be more correctly stated, to the seizure of the ankle of the child. I speak, you will recollect, of turning in cases of shoulder or arm presentation, in which the liquor amnii has been for some time evacuated, as in Anderson's case, and the uterus by its tonic contraction has clasped itself around the body and head of the child. Under such circumstances, it is an object of importance not to be obliged to introduce our hand farther than is absolutely necessary, into the cavity of the uterus, because the contraction of the organ, in many cases, opposes its introduction, and the forced introduction of it is apt to produce laceration.—It is an object also of equal moment to attempt to turn by a part which produces as little change as possible in the figure and form of the infant; because, if we thrust any of the angulated parts of the child against the interior of the contracted uterus, we would also thus be still more liable to produce rupture of that organ.—Now, holding these points in view, it appears to me, that the turning of the child by seizure of the knee presents several decided advantages over turning of the child by seizure of the foot. For,

First, The knee is more easily reached. As we slip our hand along the anterior surface of the protruding arm, and along the anterior surface of the thorax of the child, we always, if the attitude of the child has not been altered by improper attempts at version, or very irregular uterine action, find the knees near the region of the umbilicus of the infant—the lower extremities, as you are aware, being folded up *in utero* so that the knees are brought up to that part, and the legs flexed upon the thighs in such a manner that the heels and feet lie nearly in apposition with the breech of the child. To seize a foot, therefore, we would require to pass our hand about three inches (or, in fact, the whole length of the leg) *further* than we required to do in order to seize a knee.

Secondly, The knee affords the hand of the operator a much better hold than the foot.—By inserting one or two fingers into the ham or the flexure of the knee, we have a kind of hooked hold which is not liable to betray us. Every one, on the other hand, who has turned by the foot or feet, knows how very apt the fingers are to slip during the required traction, and how much in this way the difficulties of the operation are sometimes increased.

Thirdly, We produce, I believe, the necessary version of the body of the child more easily by our purchase upon the knee—because thus we act more directly on the pelvic extremity of the infant's spine, than when we have hold of a foot.

Fourthly, Turning by the foot appears to me to endanger greatly more the laceration of the uterus than turning by the knee.—The reason of this is sufficiently evident. When we turn by the foot, we have to flex the leg round upon the thigh, and thus at *one* stage of the operation, and during one part of the flexion of the leg, we are obliged to have the leg bent to a right angle with the thigh, and the foot of the infant thus projected and crushed against the interior of the uterus. You see this when, on the infant before me, I seize hold of the foot, and turn it round from its position at the breech, till I bring it up to the shoulder, the part which we are supposing to present at the os uteri. You can easily thus perceive, that when the leg of the child is thus brought round, it must rasp and scratch (if I may so speak) along the interior of the contracted uterus, and endanger to a fearful degree, the laceration of the organ. It is needless to say how much this danger is increased, when, after having brought down one foot, we pass again our hand, and attempt to bring down a second foot, (as is recommended by some authors), for thus we only double the danger of laceration of the uterus, from the forced and obstructed passage along its interior, of this other extremity.

One point remains for our consideration. Granting that it is proper to seize a knee, I think it a matter of the very first moment to know

WHICH KNEE SHOULD BE SEIZED?

On this point you will find no directions in any of our modern obstetric works, British or foreign, as far as I know them; and yet I believe the secret of turning with facility and safety in such a case as Anderson's—with the waters evacuated and the uterus contracted—depends upon the knowledge of which of the two lower extremities of the infant should be seized. If we turn with one of the extremities—and whether the foot or the knee—it should be the foot or knee of the limb on the *opposite side of the body* to that which is presenting. Thus, if the right shoulder or arm presents, we should take hold of the left knee or foot; and if the left arm or shoulder presents, we should take hold of the right knee or foot. I repeat, that I believe this point to be one of the most essential importance: and the reasons for the rule are simple.

In bringing down the fœtus in the operation of turning, we may, and should produce, two kinds of alteration in its position and figure. Thus, we may bend or flex the body forwards upon the *transverse* axis of the trunk; and we may rotate or turn the body round upon the *longitudinal* axis of the trunk. If we merely flex it, the operation of version will be one of difficulty; if we both flex and rotate the trunk at the same time, the operation will be one of comparative facility. By merely flexing the body upon its transverse axis, we are liable to bring down one of the lower extremities, whilst we do not displace the upper extremity, which is primarily presenting at the os uteri. If we *both* rotate and flex the body—that is, turn it both on its transverse and longitudinal axes—at the same moment, whilst we bring down the pelvic extremity of the child, the turning of the body of the infant carries away from the os uteri the part originally presenting.

Many of you must be acquainted with the fact, that obstetric authors have proposed various methods of removing away from the cervix uteri the presenting arm or shoulder, in order to allow of more space for the part which is brought down, and to produce the necessary evolution of the child. Thus some recommend the presenting part to be pushed up before we seize the feet; others advise the foot to be seized with the one hand, and the presenting part to be pushed up with the other; and others again counsel us to bring down one or both feet, secure them with a tape (as you see in the plate of Moreau), and, whilst pulling with this tape, to introduce the hand, after the lower extremities are brought down, for the purpose of pushing up the presenting portion of the upper extremity.

All these rules and complications are at once avoided by following the principle that I have just stated to you, of bringing down, whenever it is possible, the knee opposite that of the presenting arm or shoulder. When we do this, by carrying the knee diagonally across, if I may so speak, the abdomen of the child to the os uteri, we both, as I have said, *flex and rotate* at the same time the trunk of the infant, and in doing so, the semi-rotation of the trunk inevitably carries up the presenting arm, in proportion as the knee which is laid hold of is pulled down by the operator. I would add this, as another of the advantages of turning with one extremity, for if we pulled down both knees or both feet, or the foot or knee which was nearest to us, we would produce in many instances mere flexion of the body, *without* that rotation of it which is necessary to carry up and out of the os uteri, the presenting part of the infant.

I have insisted upon the advantages of taking hold of the knee that is highest and furthest from you, and believe this to be a matter of the very first moment. Now, it may appear to some of you that it would be more difficult to seize this knee than the knee of the side corresponding to the presenting arm; but if you reflect for a moment you will see that this difficulty is more imaginary than real. Both knees of the child, as the infant lies folded up in utero, are generally in juxta-position, and lying upon the abdomen of the infant, near the umbilicus. If, therefore, in passing your hand into the uterus, you insinuate it as you ought to do, along the anterior surface of the thorax and abdomen of

the child, you come in contact with both knees at the same time. (See Plate, Fig. 1.) And the rule which I would give you is this, that instead of hooking your finger, or fingers, into the flexure of the lower or nearer knee, (*a*) you hook them instead into the flexure of the upper, more distant, or opposite one. (*b*). Both are so far, in general, equally near, or equally distant, and you seize the one or the other according as you take care to turn your finger so as to hook it into the flexure of the lower or the flexure of the upper. It has been strongly objected by some authors to the mode of turning by the knee or knees, that we cannot with the hand in utero make a sufficient

DIAGNOSIS BETWEEN THE KNEE AND THE ELBOW.

It is averred that the operator is exceedingly liable to mistake the elbow of the child for the knee, and thus to bring down the opposite arm instead of lower extremity—a result that would certainly render the case only the more complicated. I believe, however, that we might be and are equally liable to confound the foot with the hand, and thus lead to the same consequence, while the following simple rule will always enable you to escape the error and danger of mistaking an elbow for a knee. Suppose the child to be lying, as it does, with its extremities doubled up in the uterus, the elbow and knee may be always distinguished from each other by the *opposite directions* in which they point.—You have the salient angle, convexity, or rotundity of the knee, always looking upwards towards the upper or cephalic extremity of the child, whereas you have the salient angle, convexity, or rotundity of the elbow, always looking towards the lower or pelvic extremity of the infant. A glance at the sketches, (see Plate, Fig. 1 and 2,) will show you this. Hence, if we know the position in which the infant is lying, (and this we always do, for other reasons, ascertain previous to commencing our operation,) we may, by attending to this single fact, easily distinguish in all cases a knee from an elbow.

There is one point worthy of every attention in regard to the operation we have been considering, which I have not yet alluded to. It is this, that—particularly in cases of difficulty—you require to

USE BOTH YOUR HANDS FOR THE OPERATION OF TURNING.

In making this observation, I mean that whilst we have one hand *internally* in the uterus, we derive the greatest possible aid, in most cases, from manipulating the uterus and infant with the other hand placed *externally* on the surface of the abdomen. Each hand thus assists the other to a degree which it would not be easy to appreciate, except you yourselves were actually performing the operation. It would be extremely difficult, if not impossible, in some cases, to effect the operation with the single introduced hand; and in all cases it greatly aids and facilitates the operation. The external hand fixes the uterus and fœtus during the introduction of the internal one;—it holds the fœtus *in situ*, while we attempt to seize the necessary limb or limbs, or it assists in moving those parts, when required, towards the introduced hand;—and it often aids us vastly in promoting the version or evolution of the body of the child, after we have seized the part which we search for. Indeed, this power of assisting one hand with the other, in the different steps of the operation of turning, forms the principal reason for introducing as I have sometimes done, the left as the operating hand into the uterus—for thus we can, by passing the right hand between the thighs, and over the abdominal surface of the uterus, (the woman lying on her left side) have more perfect control over the child by our external manipulations with the latter hand. Besides, the left hand, when the patient is in the position I have described, more readily adapts itself to the configuration and axes of the pelvis. If we introduce and turn with the right hand, it is more awkward and difficult to manipulate the abdominal surface of the uterus with the left.

The mode of turning which I have recommended to you was followed in the case of Anderson. When I was first called to see her, all things were in a condition suitable for undertaking the operation. The membranes had burst some hours previously, when the os uteri was still comparatively rigid. It is, no

doubt, a matter of moment to be able to turn *before* the waters have escaped, because, as I have already stated to you, the operation is then greatly more simple; but when the membranes do break—as in the case before us—with the os uteri still undilated and undilatable, we must wait with patience, and employ such measures as tend to relax that part. In the present instance, bloodletting was had recourse to for this purpose, and antimony exhibited. A short time before I saw her, Dr Barry had very properly given her a large dose of opium, in order to moderate the spasmodic or clonic contractions of the uterus, so as to admit of the more easy performance of the version of the child. The os uteri was quite dilatable when I reached the hospital, but the tonic contraction of the organ was so great that I feared there might be some delay and difficulty in the introduction of the hand, and evolution of the child. Such, however, was not the case to the degree anticipated, and the version was accomplished in two or three minutes.

The child was lying with its head towards the right iliac fossa, and its pelvis towards the left. The face, abdomen, and extremities of the infant, were looking forwards. (See plate, Fig. 1.) I therefore, as we always do in such cases, passed up my hand between the anterior or pubic surface of the uterus and the infant, in order to reach more easily the knee which I wished to seize.

As to the place, or side, where we ought to pass our hand—that is whether between the infant and the pubis, or between the infant and the sacrum—the rule is simple and evident. We pass our hand, as in the case before us, between the pubis and the infant, when we know the extremities of the child are looking anteriorly. We pass our hand between the sacrum and the infant, in those other cases in which we know the limbs of the child to look posteriorly. We do so for two reasons,—*first*, because there is always the greatest space for the introduction of the hand on that side of the fœtus to which its face, abdomen, and angulated extremities, look; and, *secondly*, it is only, of course, on this side of the fœtus that we can find and secure the lower extremities in order to produce the required evolution and extraction. Dr Lee lays it down as one of his "two most important rules" in turning, that,—however the trunk and extremities of the child may be situated—that is, whether the extremities look anteriorly or posteriorly—you ought "to pass up the hand between the *anterior* and shallow part of the pelvis, and the presenting part of the child." If the back of the infant were turned, as it sometimes is, to this "anterior or shallow part," it would be impossible, by any search in that situation, to get hold of one or other of the legs of the child, which are situated in the very opposite part of the uterus, and on the opposite side of the body of the fœtus;—and if the feet were thus really seized, they would be brought over the back of the child, and the spine so far greatly endangered. But Dr Lee's rule is so very obviously erroneous, and the result of some misconception or disregard of the mechanism of transverse presentation and turning, as not to require any formal refutation. His second important rule, "that when one hand is rendered powerless by the pressure of the uterus, you ought to withdraw this hand, and replace it by the other," will doubtless be in many cases, I fear, an unavoidable result of the mismanagement advocated by the first—and is rarely if ever required when you employ the proper hand at once. And every new and unnecessary introduction of the hand must be reprobated, as inflicting a new and additional source of danger upon the patient,—and hence should be avoided as far as possible.

You saw, in this instance, what are the usual preliminary measures adopted in connection with the operation of turning. We kept, as I showed you at the time, the patient placed upon her left side, with the trunk of her body situated across the bed. The right knee was raised by the hand of an assistant, and the uterus kept fixed and steady by pressure on the external surface of the abdomen. In preparing the hand and fore-arm for the operation of turning, these parts were perfectly uncovered, and everywhere anointed with lard, with the exception of the palmar aspect of the hand and fingers. These latter parts require always to be kept free, in order to secure a proper hold of the presenting part.

After cautiously passing the hand into the uterus, along the anterior surface

of the protruded arm, I glided it between the anterior surface of the thorax of the child, and the anterior wall of the uterus, laying it flat during one slight pain that supervened, and insinuating it onwards immediately afterwards, till I reached the two knees lying in the umbilical region of the infant. I passed one finger into the flexure of the upper knee, and thus got sufficiently firm hold of that part, without displacing the lower extremities to any extent. Assuring myself, as we always do in the process of version of the child, of the *complete absence* of all clonic contraction of the uterus, I easily turned it round with the purchase I had, and brought down the left lower extremity, the infant making a complete rotation during its evolution as we shall see immediately from the direction of the toes, abdomen, and face.

We thus, you observe, make the version or evolution of the child during the *absence* of any uterine pain, but after bringing down the extremity, should any further assistance be required towards the extraction of the child,—it must, I beg you especially to remark, be made not during the absence of uterine contractions, but during the *presence* of them. In most cases, indeed, after the version is performed, we allow the uterine contractions themselves to expel the infant, but it was not necessary to wait in such a case as Anderson's, the pains being trifling, and the child being dead. I therefore pulled gently at the protruding leg during each subsequent contraction, and ultimately extracted the head from the pelvis by a purchase obtained by passing two fingers of the right hand over the neck of the child, and introducing other two into its mouth.

You will recollect that, in Dr Barry's report of the case, as I read it to you, he states an interesting and important fact with regard to the evidence which it afforded of the

NATURAL MECHANISM OF LABOUR IN FOOTLING PRESENTATIONS.

In this instance, as occasionally happens in pelvic presentations—both spontaneous and artificial—we found the toes looking towards the pubes, from which we knew that the face and chest of the child must be turned in the same direction,—and I stated to the gentlemen present, that this would not interfere with the process of extraction of the infant, for the child, during its further transit, would rotate round with its toes, &c. towards the nearest sacro-iliac synchondrosis, and not require any manipulation on our part to make it come out in that—its proper and most easy position. This is a subject I would wish particularly to impress upon your minds, for you will find it stated in almost every text-book, that in all pelvic presentations, whether they occur spontaneously, or whether they are artificial, as in cases of turning, it is proper and necessary for us to rotate so far the body of the child, that its toes, and hence its face, should be turned towards the posterior aspect of the pelvis, or, as some more properly advise, towards the nearest sacro-iliac synchondrosis.

We are recommended, for instance, by Dr Hamilton, to observe, (as soon as the child is born as far as the knees,) whether the toes point forwards or not,—and if they do point forwards, as they did in Anderson's case, we are further directed immediately to turn the child round, so that they may look to the nearest sacro-iliac symphysis.

But no such manipulation is required as a general rule in spontaneous pelvic presentations, and none in artificial pelvic presentations, especially when you bring down only one extremity. In all the cases which I have watched, the infant, as in Anderson's, during the passage of the trunk, rotates and assumes this position itself, without any interference on our part, and upon the principle which I stated to you at lecture this morning, (when speaking of similar rotations in head cases,) of the mutual physical relation of the child and pelvis, the former turning within the latter, as the helix of a partial screw will partially turn within its nut.

In natural or spontaneous pelvic presentations, this rotation that I allude to, occurs normally and naturally during the passage of the trunk; and that the rotation itself is a mere physical result, and independent of any vital actions on the part either of the child or mother, is proved to demonstration by an experiment which I have several times taken occasion to make—namely, that of

dragging by one foot a dead fœtus through the pelvis of a dead mother. If, at the commencement of this experiment, we place the child with its toes, abdomen, and face, looking forwards, we shall find that, as the trunk passes through the pelvic cavity, it regularly rotates round, so that these parts come to present at the nearest sacro-iliac synchondrosis.

Now, what holds good in regard to the mechanism of natural pelvic presentations, holds good also in regard to the mechanism of artificial pelvic presentations, or of those which we make in the process of pelvic turning. In artificial, as in natural footling and breech cases, we ought, I believe, to discard in a great measure from our mind any necessity of interfering, so as to turn the infant in one position or another as it passes through the pelvis; for in 9 out of 10, or in 19 out of 20 cases, it will sooner or later assume for itself the easiest and best position for the passage of the head—namely, with the face turned towards the nearest sacro-iliac synchondrosis. This will almost invariably be the case, if we do not hurry the extraction of the child by pulling at the protruded extremities, or if we pull merely by one—and that the one *nearest* the pubis. *By dragging, when it is required, at the limb of the child lying next the pubis, and at this limb only*—we pull down the pelvis of the infant obliquely, (so far imitating the presentation and easy transit of this part of the body in normal pelvic cases, where the anterior ischium is always the lowest;) and by the same means we promote the necessary rotation of the child's body, while we would prevent it, on the other hand, by dragging at the sacral or posterior limb,—or by grasping and dragging simultaneously at both.

All obstetric authors seem to me to err in advising direct interference for the rotation of the child in artificial pelvic cases to be made by the hands of the practitioner. In speaking of the duties required in such circumstances, even my friend Dr Rigby (who in other points inculcates such sound and excellent doctrines with regard to the mechanism of parturition, and non-interference with it on the part of the attendant,) observes, "the uterus must be emptied as slowly as possible, and the anterior part of the child *must* be directed more or less backwards." It will, as I have stated to you, be directed more or less backwards by the physical relations between its own trunk and the interior of the maternal pelvis, so as to require no such adaptation to be attempted by any intermeddling on our part. A simple experiment will convince you that this will occur. I have already stated to you, that in repeated experiments made by dragging a dead child by one limb through the pelvis of a dead mother, I have seen the rotation spontaneously take place. But it will even take place, if I perform the same experiment much more rudely, by attempting to drag the leather fœtus before us through the bony cavity of this dry pelvis. If I place thus the fœtus with the feet in the pelvis, and the toes directed towards the pubes, or,—as is the case in nature, somewhat obliquely to one side of the pubes, say towards the right foramen ovale—and drag the fœtus through by pulling only at the anterior or pubic limb of the child, it turns, you observe, spontaneously as the trunk passes through the pelvis, so that the face looks at last to one ilium, or even backwards towards the nearest or right sacro-iliac synchondrosis; and this extent of rotation is the more sure to happen if the right arm chance to pass into the unoccupied space of the left sacro-iliac symphysis, or rather if that arm be removed so as not to prevent the rotation of the shoulders and head. The curious and illustrative experiment I have just shown you, was first pointed out to me by my esteemed friend Mr Zeigler.

I have already dwelt tediously long upon the mode of turning that was adopted in the case which is before us, and the mechanism of it. Let us now turn and consider

THE MORBID CONDITIONS AND MALFORMATIONS OF THE CHILD.

1. *The state of the cuticle* in Anderson's child was such as is generally seen when the infant has been dead for several days before its expulsion,—that is to say, it was peeling off extensively, though not anywhere thrown into the form of bullæ, as we sometimes find it. There was another evidence of putrefaction, namely, a great swelling of the scalp, from, as we saw on making a section of

it, a thick gelatiniform effusion of sero-sanguinolent fluid into the cellular tissue of that part. The swelling itself, and the effusion composing it, are, as you know, precisely of that kind which is known under the name of *caput succedaneum*, with this exception,—that its edges are not so very precisely defined. I have seen many children who have evidently died in utero some time previously to the accession of parturition, present a similar cranial effusion to this; and in two or three cases I have observed it, as in Anderson's child, even when the infant presented preternaturally. The effusion is so very like that of a caput succedaneum, that most people would certainly take it for one, and hence I would have you to deduce this observation, that a swelling of the scalp, with sero-sanguinolent effusion accompanying it, is not, as has been laid down by some medical jurists, either a mark of the child having been alive at the commencement of labour, or of the presentation being that of the head. The fact is, in putrefying children you have a sero-sanguinolent effusion into almost all the cellular tissue of the body, but it is greater in the scalp, and produces a more defined swelling there, in consequence of the cellular tissue of that part of the body being comparatively so loose in the child, and easily infiltrated.

2. *Peritonitis in the Fœtus in Utero* appears to be a frequent disease, and, in consequence of the blanched state of the placenta, and the swelled condition of the abdomen in Anderson's child, I stated to the gentlemen present, before we opened its body, that we would in all probability meet with some evident traces of the previous existence of peritoneal inflammation. Accordingly, on exposing the abdominal cavity, we found, as you now see, a number of loose patches, and membranous shreds of coagulable lymph effused upon the surface of the peritoneum. These patches are in greatest abundance towards the lower part of the peritoneal cavity, especially upon the caput cœcum, and in its neighbourhood. The surface of the spleen is coated at different points with an attached semi-membranous layer of coagulable lymph, and I have seen few cases of intra-uterine peritonitis in which the surface of the spleen did not, as in this instance, present the inflammatory effusion in a very marked degree. The spleen itself, in the child before us, is of an enormous size,—an observation which I have made in two or three other instances of peritonitis in the fœtus.

3. *The Omphalo-mesenteric Vessels persist as a Malformation in this Fœtus,*—that is to say, you perceive here running from the inner or peritoneal side of the umbilicus, directly towards the mesentery of the smaller intestines, a firm band, nearly as strong and thick as a piece of saddler's silk, and which I now raise on the handle of the knife. You know the origin and course of the omphalo-mesenteric vessels to be exactly that of the band which I show you. The permanence of this band, as a malformation in the fœtus at birth, I have seen in one or two other instances:—in one case in a fœtus in the museum, with appearances of intra-uterine hydrocephalus, and additional fingers, this malformation also exists. Spangenberg alleges, that he found those omphalo-mesenteric veins present, and apparently partially pervious, in an adult who died of phthisis towards the age of twenty.

But, returning to the Peritonitis, allow me to observe, that here, as elsewhere, the only true evidence of previous existing inflammation in the fœtus consists in the presence of some of the *organic* products of inflammation, such as coagulable lymph, and the pseudo-membranous adhesions which such lymph so readily produces when thrown out on serous surfaces, the presence of pus, ulceration, &c. We can, in no degree, depend upon colour alone, or upon serous or sero-sanguinolent effusions, as these are often the result of mere putrefaction after death.

I have just stated, that Peritonitis, as a disease of the fœtus in utero, is very frequent. For my own part, I believe that you will find evidence of it in most of those children that are born in a semi-putrefied state, and that have perished several days previous to birth, while there is no disease in the placenta or other appendages to account for the death of the infant. In the *Edinburgh Medical and Surgical Journal* for 1838 and 1839, I published some twenty or thirty instances in which the fœtus was found to present after birth evidences of the previous existence of acute peritoneal inflammation; and since that time I have

had occasion to observe the disease in a number of other additional cases. Two or three weeks ago I took an opportunity of showing you a recent specimen of it in a fœtus that was born about the sixth month of utero-gestation. Since my observations were published, Dr West of London, and Dr Otto of Breslaw, have each recorded a number of similar cases.

This special disease of the fœtus—*peritonitis*—is interesting and important in one point, to which I now wish to direct your attention, namely, as being liable to occur successively in different children of the same mother, and thus sometimes producing a series and succession of premature still-born infants. In the case before us, the mother had a still-born child about a year ago.

During the few minutes that remain, allow me to direct your attention to this subject, which is one of no small practical moment, and let us consider

THE INTRA-UTERINE CAUSES OF DEATH AMONGST PREMATURE CHILDREN, AND THEIR TREATMENT.

The pathological causes that lead to this unhappy result, sometimes in a succession of pregnancies in the same female, are, as far as I have yet investigated them, principally *three* in number, namely,—

First, Peritonitis in the Fœtus, as in the child lying before us. And one remark applies to this and to the other causes,—namely, that in consonance with a curious law in intra-uterine pathology,—the same morbid conditions of the fœtus and its appendages are apt to recur to the same woman in successive utero-gestations. When the child dies of peritonitis, the placenta has always a whitish washed, or bleached appearance, as if it were drained of all red blood, but has no morbid change or deposit in its structure.

The other two causes of the successive deaths of premature children are referable to morbid conditions of the placenta itself, and consist of,

Secondly, Inflammatory Induration and Degeneration of the Placenta, such as you see in several specimens placed upon the table. In this morbid affection, the inflammatory action is generally confined to a limited portion, or a few lobules of the organ, whilst the others are left sound and free. In some cases, however, we find it invading the whole surface of the placenta,—an observation which you will see confirmed by the state of the organ in many cases such as this, which I now show you, where there has been born a secondary fœtus, along with one at the full time,—the secondary fœtus, as it is called, being merely a fœtus which had been destroyed as early as probably the fourth or fifth month, by the morbid alteration which had occurred in the structure of the placenta, or portion of the placenta belonging to it. In inflammatory induration, the morbid deposit and change seems generally to stretch, as shown in this preparation of Mr Goodsir's, from the maternal surface of the placenta towards the fœtal. The decidual membrane covering the exterior surface of the placenta is sometimes, as here, much thickened by the inflammatory deposit.

The other morbid condition of the placenta,—if we may call it morbid,—which leads sometimes to the successive death of children in the same mother, is

Thirdly, Hypertrophy of the Placenta.—When the placenta presents this condition, the organ is greatly enlarged; the divisions between its lobules and maternal surface are very marked and very deep; and the edge of the placenta seems as it were almost to turn over to a certain degree the boundary of the fœtal surface.

No event is liable to produce more domestic distress and unhappiness than the loss of a succession of children from the intra-uterine causes I have just mentioned. How then may we most easily make out the diagnosis of them; and what treatment will be most successful in averting the evil to which they so generally lead?

The *Diagnosis* of the pathological cause of the death of the fœtus, in one or two successive pregnancies, can only be made out, with any precision, by having an opportunity of examining the body of one of the fœtuses and its placenta. In doing so, we may be enabled to obsèrve which of the three causes I

have mentioned is the source of the calamity, and to direct our treatment accordingly.

Some years ago, when I was engaged in the investigation of Peritonitis in the Fœtus, I more than once asked myself the question, in what good could such an inquiry result? I felt utterly sceptical as to its being of any benefit, except as satisfying pathological curiosity. But often when we enter on a subject of pathological study, we really know not to what ultimate results it may lead, and never ought to condemn or eschew any morbid investigation, because we do not immediately see any practical advantage to which it may tend. I have latterly become convinced that the study of peritonitis in the fœtus may be made of no small practical utility in the following respect:—

In describing it, in the paper to which I have already referred you, in the *Edinburgh Medical and Surgical Journal*, I have, in discussing the exciting causes of the disease, stated, that in some cases the mother, as in the woman Anderson, has been exposed to bodily injury, &c., and after mentioning other probable morbific circumstances, have added, that it appeared to me highly probable, from the investigations I had then made on this point, that a great proportion of those children of syphilitic mothers that die in the latter months of pregnancy, may be shown to have perished under attacks of peritoneal inflammation; and further observations have led me to conclude that the evidences of peritonitis, in several successive children of the same mother, is a pretty certain test of one or other of the parents, especially the mother, being tainted with syphilis.

The practical deduction in the way of *Treatment* from this observation in the way of *Diagnosis* is evident. It is, I believe, in these cases of successive premature labours, where the child perishes of *peritonitis*, and in these cases only, that mercury and other non-syphilitic modes of treatment are alone useful, though these modes of treatment have been supposed to apply to *all* instances where there is the unfortunate habit of losing the infant in the last months of utero-gestation.

For the treatment of the cases in which the child dies in consequence of disease, not in its own structures, but in the economy and structure of the *Placenta*, I believe that totally different principles ought to be pursued; and in a number of instances now, I have had the good fortune to see, in my own practice, these means of treatment followed by the most happy and successful results.

You may easily understand the principles on which I have proceeded in these last affections, if, in the first instance, you recollect that the two functions which the placenta appears to perform in the fœtal economy, are those of nutrition and respiration; or probably we should more properly say, that this organ is the medium of these two functions between the mother and the infant.

When the placenta becomes diseased it can destroy the infant only, (seeing there is no morbid lesion in the fœtus itself) by the imperfect manner in which one or both of these functions is performed. Such children, however, as we find in cases of diseased placenta, would not appear to perish from want of nutrition, because in many instances we find them not more lean and atrophied than healthy children sometimes are at the time of birth; and on opening their bodies you have often abundance of deposit of adipose matter. I believe for my own part that they die generally rather from the diseased placenta not being able to act sufficiently as a *respiratory medium* between them and the mother, and that the infant in consequence dies from the morbid condition of the placenta, in the same manner as we should die if our lungs were densely studded with tubercular deposits, or extensively destroyed by inflammatory action.

Now the question is—with such an imperfect placenta, (or imperfect fœtal lungs, in other words) what means can we possibly adopt in order to make this diseased placenta serve as a respiratory organ to the infant for a very few weeks longer; the question being in general one only of a few weeks,—that is to say, if we could preserve the child's life during that period from the action of the deleterious influences of which I speak, we would save the child till it was fit to take on an extra-uterine existence.

I have generally in cases in which, from the history of the previous pregnancies, I knew the tendency to be to *Chronic Inflammation and Induration of the Placenta*, attempted to prevent the inflammatory action which produces the induration, from going to any considerable extent, by leeching from time to time, particularly at those periods when the woman would have had her catamenia present, provided she were not in the family way, because it is, I believe, at these periods that she runs most danger,—there being, during pregnancy, in many females a monthly *molimen* of blood in these parts, though there be no monthly discharge. But though we may moderate the inflammatory effusions in this way, we can seldom, I believe, prevent them. Hence, our object is to make as much as possible of the diseased placenta efficient as a respiratory organ, or rather to make the respiratory change in the remaining healthy part as active and intense as may be.

To understand how this may be done, consider for a moment how the fœtus does respire or breathe. Its type of respiration, as I have described it to you at other times, is like that of fishes. The blood of the fish is sent into the vessels of the gills in order to undergo the respiratory change which is there effected through the oxygen contained in the surrounding water. The blood of the fœtus is sent into the tufts or terminal branches of the fœtal placenta, (its gills, in other words), in order to be there exposed to the oxygen contained in the maternal blood, by which these tufts are washed in the cavernous structure of the placenta.

The respiration of the human fœtus is, I say, like that of a fish, then, with this difference, that the blood in the gills of the fish is arterialised by the *water* in which these gills are freely immersed, whilst the blood in the placental tufts of the fœtus is arterialised by the *maternal blood* in which these tufts are freely immersed. We can influence the vitality of the fish by the quantity of oxygen in the water applied to its gills. I believe we may do the same with the fœtus, by changing the quality of the maternal blood applied to its tufts.

Then comes the question, by what measures could we render the maternal blood as highly an oxygenised medium as possible, in order that, when it is applied to the fœtal placental tufts, it may make up by the quality or intensity of the respiratory change, which it there produces, for that loss of quantity which is a necessary consequence of a portion of these placental tufts being already destroyed by disease.

I have attempted to do this, and in a number of cases, as I have already stated, apparently with perfect success, by keeping the patients constantly on small doses of alkaline salts, such as chlorate of potass, nitrate of potass, bicarbonate of soda, &c., given several times a-day, on an empty stomach, exactly as Dr Stevens, some years ago, proposed to do for the restoration and arterialisation of the un-arterialised blood in fever patients.

You are aware that the addition of alkaline salts to the blood in this way appears to promote greatly—I had almost said to impart—arterial changes and properties, and that in a way which physiologists and chemists have not yet been able satisfactorily to explain. If you cover a coagulum of newly drawn venous blood, with a thin layer of water, the surface of the blood continues to retain its black colour. If you add alkaline salts to the intervening layer of water, the air will very speedily act through this medium so as to render the clot of a red arterial colour.

Patients have repeatedly averred to me, that the use of the salts I have spoken of, has a perceptible influence on the strength of the motions of the fœtus,—or, in other words, on its muscular power and vigour for the time being; but the observation is liable to so many fallacies on the part of the parent, that, probably, we should not build much upon it. But if these salts act in the manner which I suppose, on the maternal blood, the fœtus, under their use, is just placed in a better and purer atmosphere, (to use language applied to extra-uterine life), and in this better atmosphere is capable of living for a few weeks longer than it otherwise would have done. I think it might be a matter of some chemical importance to inquire, what special salts would probably be

of most use in rendering the mother's blood as highly an arterialising medium as possible, and if the use of iron in any form would increase its power in this respect. The subject is quite open for inquiry, and one in regard to which I know not any very accurate existing data.

I have stated to you that *Hypertrophy of the Placenta* seems to occur successively in different pregnancies in the same woman, and sometimes to be a cause of the death of the infant in the last weeks. One of the preparations on the table is a specimen of this diseased condition, and the patient from whom it was taken, had produced six or seven dead-born premature children. Mr Goodsir has directed his attention particularly to this effect of hypertrophied placenta, and similar observations have been made by some continental accoucheurs. It is difficult to say how the hypertrophy of the placenta destroys the functions of the organ, for in the specimen before you, there was no special lesion in the body of the child itself. Sometimes, however, the child presents dropsical effusions, such as anasarca and ascites. Probably the mutual compression and impaction of the different lobules and parts of the hypertrophied placenta on each other, are such as to diminish and destroy its action as a respiratory organ, and to impede the circulation through its vast collection of vessels. Under these circumstances, the alkaline salts might also be of use in the way of lengthening for a time, the intra-uterine life of the infant.

In all the three series of cases which I have adverted to, that is to say,—in cases where children of the same mother have died successively of Peritonitis before birth,—where a series of children have been lost from Inflammatory Induration of the Placenta,—and where the Hypertrophy of the Placenta has acted in the same way,—in all of these, I say, I believe that the *induction of premature labour* about the seventh or eighth month ought to be a point of treatment held in view, and frequently had recourse to. I look upon this remark as especially holding good with regard to the placental cases; and that obstetric authors should add, (what no one of them, so far as I know, mentions) the diseased states of the Placenta to which I have alluded, as a *cause* for the induction of premature labour, when they have recurred several times upon the same mother, and produced death of the child but a few days previous to its birth. Out of three cases of diseased placenta which have been under my care since the commencement of the present year, in two I induced premature labour successfully, as regards both mother and child, one of the patients having previously lost six, and the other three children. I had thoughts of allowing the third to go on to the full period, but fortunately, natural premature labour came on about the eighth month, and a living child was born. The placenta was so destroyed by inflammatory induration in this last case, that I am sure it could not have served as a lung for the child for a much longer period. Nature here pointed out strongly, and effected by her own efforts, what ought to be done by art in similar instances.

In this and other instances where premature labour is required, the introduction of a sponge tent into the orifice of the uterus is by far the simplest and the safest means. In one of the two cases which I have just mentioned, a tent was put in at 12 at noon, and a larger one about 8 in the evening. Pains came on in an hour or two afterwards, at a time when the os uteri was *already* dilated by the action of the tents, and the first stage of labour, as it were, *half completed* before labour pains had yet begun. In 13 hours in all, after the introduction of the tent, a living child was born. It is seldom, however, that uterine contractions occur so speedily after the commencement of these or other measures for their induction.

Explanation of Plate.

FIG. I. Shows the position of the child in the case of the woman Anderson.

FIG. II. Illustrates the effect of projecting a foot (when we turn by it) against the walls of the tonically contracted uterus, and the consequent danger of laceration from this practice.

PART SECOND.

REVIEWS.

Urinary Deposits, their Diagnosis, Pathology, and Therapeutical Indications. By Golding Bird, A.M., M.D., *Assistant Physician to, and Lecturer on Materia Medica, at Guy's Hospital, &c.* 8vo, pp. 323. 32 Wood-cuts. London: 1845.

The application of Chemistry to Medicine has for two especial reasons, deservedly engrossed much of the attention of our profession; first, from its discovering new and important therapeutical weapons, wherewith to combat the assault of disease; and, secondly, from its putting us in possession of important diagnostic aid, as well as teaching us the mode of detecting certain morbid changes of fluid and solid elements of the organism, of which, without its assistance, we must for ever have remained ignorant. Pathological chemistry may indeed be regarded as a more refined species of dissection, detecting as it does, effects of disease which elude the scalpel and unaided eye of the anatomist.

A review of much of the results of the labour of modern physicians induces us to believe that humoral pathology is making rapid strides towards filling that important place which a too exclusive solidism has long usurped. We need hardly say, we do not anticipate a revival of all the absurdities of a justly exploded doctrine, which referred every phenomenon of disease to the existence of an excess of acid or alkaline spirits, whose union with effervescence was supposed to constitute the essence of fever and inflammation. Such doctrines,—in company with those more savouring of solidism, which referred febrile ailments to an error loci on the part of the blood-corpuscules,—have long been consigned to the common resting-place of fanciful theories and unsupported hypotheses. But we do anticipate the establishment of a rational pathology of the blood and other fluids of the body, on the firm basis of induction from external experiments,—not to the exclusion of a pathology of solids, but enjoying an equal place with it;—both mutually aiding each other in explaining the mysterious changes which occur in the body from diseased action.

It must ever be a proud boast to us, that it is in this Empire that the first successful attempts were made to establish an experimental investigation into the obscurity of diseased secretions. British science first gave the stimulus to these important inquiries, and British physicians still stand prominent among those who labour in this arduous field. The labourers are, however, far too few for the vineyard, a circumstance which arises from the exclusive chemist being unfitted for the task, by his ignorance of medicine, and the exclusive physician by his want of experience in chemical manipulations; and unfortunately but few members of our profession who enjoy the advantage of great clinical experience, are fitted by chemical attainments or inclination, for taking part in these investigations. We might certainly point to Dr Christison and Dr Prout, as two illustrious living examples of physicians, combining profound chemical knowledge with the most extensive practice of their profession. To allude to the labours in medical chemistry of these able practitioners, is superfluous: they are known wherever Medicine exists as a science.

It unfortunately occurs, that those who, from peculiar circumstances, have had opportunities of entering deeply the *penetralia* of science, are generally the more unqualified for rendering the acquisition of knowledge easy to others, from the fact that they too often take it for granted that the student is initiated

into all the preliminary difficulties of the subject. So in the application of chemistry to medicine, the intelligibility of a book is often lost from being too much obscured by the peculiar symbolical expressions of abstract chemistry. These remarks struck us on reading the title of the work before us, and on perusing the prefatory remarks, we were pleased by finding the following sentences.

"In coming in contact with pupils in the course of my duties as teacher of my profession, and in mixing with medical men in practice, I have often found them in want of some work which would enable them readily to discover the nature of a deposit in the urine, and succinctly point out its pathological and therapeutical indications,—and thus be more fitted for the humble office of pioneer to more elaborate and more diffused sources of information." P. viii.

The position of Dr Golding Bird as a medical officer and teacher at Guy's Hospital, must enable him better to judge of the mode for conveying a knowledge of the subject he treats of to his readers, than others whose duties do not call upon them to perform the arduous office of teaching.

The work before us appears to be based on the Lectures on the Pathology of the Urine, delivered by Dr Bird, at Guy's Hospital, which were reported in the *London Medical Gazette*, and have since had the honour of re-publication at Vienna, in a German dress.

After some useful practical remarks on the examination of the urine at the bedside, the author plunges *in medias res*, dividing his subject into the following heads:

I. Physiological origin, and physical properties of the urine.
II. Chemical physiology of the urine.
III. Chemical pathology of uric acid and its combinations.
IV. „ uric oxide.
V. „ purpurine.
VI. „ cystine.
VII. „ oxalate of lime.
VIII. „ earthy salts.
IX. „ abnormal fragments.
X. „ non-crystalline organic deposits.
XI. Therapeutical employment of remedies influencing the kidney.

We now proceed to notice a few of the most prominent points treated of in this very useful and practical work.

Dr Bird particularly insists on the importance of observing a strict distinction between the specimens of urine voided at different periods of the day, and excepting when examined with a view to some special indication, directs all the urine of 24 hours to be collected in one vessel, and an average sample selected, (pp. 4, 15, 19, 129, 179, &c.) He fixes on 1.003—1.009 for the average density of *urina potus;* 1.020—1.030 for *urina chyli;* and 1.015—1.025 for *urina sanguinis.*

In treating of the physiological origin of urine, the author gives an account of the hypotheses of Prout and Liebig, rejecting the views of the latter regarding the uses of the red particles of blood, and adopting the opinion of Müller respecting the function of protein as the real "carrier of oxygen." p. 8.

He believes that when metamorphoses of tissue take place in the body, bile, urea, uric acid, carbonic acid, and water, are the results; and that when, (as an example,) 35 atoms of muscular tissue are broken up by the chemical action of 1728 atoms of oxygen conveyed to it in the oxy-protein of arterial blood, the following products are presented.

14 atoms of solid matter of bile—filtered off by the liver.
32 „ urea
1 „ uric acid } „ kidney.

200 atoms of carbonic acid—filtered off by the lungs and skin.
403 „ water „ { all excreting glandular structures.

In determining the proportion of solids from the density of urine, preference is given to the formula of Dr Christison over that of M. Becquerel, and a table calculated from this is given. In alluding to the relation between uric acid and urea, Dr Bird states, that his experience leads him to differ *in toto* from the views of Professor Liebig; and to regard the proportions of these bodies rather as influenced by peculiarities in diet, or state of health, rather than by variations in the processes of oxidation in the animal economy. He regards the phosphate of soda and ammonia as the solvent of uric acid; and thus explains this *questio vexata*.

"Uric acid, at the moment of separation from the blood, meets the double phosphate of soda and ammonia, derived from the food, and forms urate of ammonia, evolving phosphoric acid, which thus produces the natural acid reaction of urine. If the whole bulk of the urine be to the urate of ammonia formed not less than about 2700 to 1, the secretion will, at the ordinary temperature of the air, remain clear, but if the bulk of fluid be less, an amorphous deposit of the urate will occur. On the other hand, if an excess of uric acid be separated by the kidneys, it will act on the phosphate of soda of the double salt, and hence, on cooling, the urine will deposit a crystalline sediment of uric acid sand, very probably mixed with amorphous urate of ammonia; the latter usually forming a layer above the crystals, which always sink to the bottom of the vessel." Pp. 41, 42.

In alluding to the views of Professor Liebig, regarding the effects of a diet composed of readily oxydizable food, in influencing the secretion of uric acid, the experience of Lehrmann is appealed to in support of the old doctrine of uric acid and urea being increased by a strictly animal diet, and diminished when the patient is confined to food in which more nitrogenized articles preponderate.

"The experiments of Lehrmann, already alluded to, performed upon himself, demonstrate, that vegetable diet, and one quite free from nitrogen, decreases, and an animal diet increases the quantity of uric acid; the urea also increases in the same manner. The following table presents the results of Lehrmann when he experimented on himself.

Diet.	Quantity excreted in 24 hours of		Proportion of uric acid to urea.
	Uric acid.	Urea.	
Exclusively animal,	22.64 grains.	819.2 grains.	1 : 36.1
Mixed animal and vegetable,	18.17 „	500.5 „	1 : 27.5
Exclusively vegetable,	15. 7 „	346.5 „	1 : 22
Food free from nitrogen,	11.24 „	237.1 „	1 : 21

"From this table we learn, that when living on a diet as free from nitrogen as possible, 11.24 uric acid, and 237.1 grs. of urea were excreted by Lehrmann's kidneys in 24 hours. These quantities may be assumed as solely produced by metamorphosis of tissue, inasmuch as there existed no other source for them. On confining himself to a strictly animal diet, Lehrmann found in his urine, 22.64 uric acid and 819.2 urea, being 11.4 more of the former, and 582.1 more of the latter than can be accounted for by the disorganization of the tissues of his body, and consequently must have been derived from the ingesta. On mixing vegetable food with his meat, instead of finding an increased proportion of uric acid, as the theory of Liebig would indicate, this substance decreased not only in the actual amount, but in the ratio it bears to the urea." Pp. 45, 46.

The latter part of this sentence obviously involves an error, as the text does not agree with the figures in the tables, we presume it should have stood thus: "instead of finding an increased proportion of uric acid, as the theory of Liebig would indicate, this substance decreased in the actual amount, but *not* in the ratio it bears to urea."

"1. *Attention to the function of the skin.*—The remarks already made on the effect of an arrest of perspiration, furnishing a pabulum for the formation of a deposit (66–68), or by retaining in the circulation a substance capable of rendering uric acid insoluble (76), show the necessity of attending to this indication. I have repeatedly seen diaphoretics, warm clothing, the use of a flannel, and in winter, even a chamois leather waistcoat, with friction, by means of a flesh-brush or hair-glove, repeatedly remove a deposit of uric acid gravel, and in more than one instance, where even a hereditary taint existed from gouty or calculous progenitors. The observations of Dr Wilson Philip have shown, that the proportion of uric acid in the urine is notably diminished by the use of active diaphoretics. It is also probable, that the extreme rarity of calculous affections in the navy might be partly explained by the kind of vapour bath in which sailors sleep, 'the lower decks being allotted to repose, the ports are, for the safety of the ship, necessarily closed at night, and the temperature of the surrounding air is thereby so exalted that the place becomes a kind of steam-bath from animal exhalations; the men being literally immersed in their own perspiration.'

"My own experience induces me to regard the warm, or still better, the vapour-bath, as the most valuable diaphoretic. The latter is readily employed in private practice by means of the very convenient and portable apparatus of M. Duval, which has for a long time superseded other forms of vapour-bath at Guy's Hospital. Actual diaphoresis is by no means necessary in the treatment of all cases of uric gravel; friction to the skin, and when persons are sufficiently robust, immersion in the cold bath, followed by rubbing the surface of the body with a dry and rough towel, until re-action is produced, is often of great service.

"*Restoring the tone of the organs of digestion.*—By effecting this, a double object is attained; the perfection of the primary assimilation of the food by which the entrance of a crude nitrogenised matter, capable of being converted into uric acid, into the blood is prevented, and the prevention of the generation of any acid, the product of unhealthy digestion, which might be absorbed by the lacteals, and act as a precipitant of uric acid. This part of the treatment of calculous affections must be modified by the peculiarities of the case, and indeed is identical with that of the different forms of dyspepsia. Careful attention to the bowels, avoiding excessive purging, the use of minute doses of mercury, as of a grain of pil. hydrargyri or hydrarg. c. creta, with thrice that quantity of ext. conii, administered two or three times a-day, with moderate doses of the carbonates of potassa, or soda in the mist. gentianæ comp., if constipation exists, or in inf. calumbæ, or what is far better, from its action on the skin, inf. serpentariæ, will often effect immense relief. Where gastrodynia, with or without pyrosis, exists, the use of half a grain of argenti nitras, or one of argenti oxydum, immediately before a meal, will often check alike the gastric and renal symptoms. But the most important element in the treatment is a rigid attention to the quality and quantity of the ingesta, taking the utmost care to select those articles of diet which the patient can best digest, it being of far greater importance, in the majority of cases, to regard this, than to choose articles of food according to their chemical composition. A too bulky meal of animal or vegetable food is injurious to persons labouring under calculous dyspepsia, for, whilst the former supplies too much nitrogen, both will become sources of mischief by overloading the digestive functions, and preventing the chylopoietic viscera doing their duty. In protracted cases, however, much good is derived by actually cutting off part of the supply of nitrogen. In this way I have seen a copious deposit of uric acid gravel disappear, after other measures had failed to give relief.

"Among the remedies which appear most successful, when the food is not converted into healthy chyle, and an unhealthy state of the blood, from the presence of imperfectly assimilated matters, results, the preparations of iron deserve notice. I have repeatedly seen copious deposits of uric acid, in persons of low power, completely disappear *pari passu* with the cure of the pseudo-chlorotic symptoms present, by the use of this important drug. The best mode

of administering it, is in combination with a vegetable acid, as the stomach bears it well in this form, and it is probably more likely to enter the circulation. From six to twelve grains of the ammonio-citrate or ammonio-tartrate of iron, taken thrice a-day, immediately after a meal, in a glass of water, have been most successful. The solution of the sesqui-acetate of iron is also a very valuable preparation, but is often inconvenient to prescribe, in consequence of its not being of constant strength.

"*Remedies which act as solvents of uric acid.*—These chiefly consist of the alkalies and their carbonates, biborate and phosphate of soda, benzoic and cinnamic acids. As the alkaline urates are far more soluble than the free acid, the employment of soda and potass, with their carbonates, has been long used in the treatment of uric gravel. They, moreover, exert a beneficial effect in neutralising any free acid in the primæ viæ, and thus preventing a precipitant of uric acid reaching the kidneys. The liquor potassæ may be employed in doses of half a drachm thrice a-day; it is best taken about an hour after a meal, and may be conveniently administered in a little bitter ale, which conceals much of its disagreeable flavour, or in any bland vehicle. The carbonates of potass and soda are, however, far more agreeable, and perhaps more efficient remedies,—of these the bicarbonate of potass deserves the preference. It should be given thrice a-day in doses of ℈j or ℥ss. I think it appears to act best when taken in a glass of warm water. To make it more agreeable, I generally order, what I am accustomed to term to my patients, the artificial Vichy water, made by stirring ℥ss of bicarbonate of potass and gr.v citric acid into a tumbler of lukewarm water. This mixture evolves enough carbonic acid to be 'sparkling,' and is generally taken with readiness.

"A very convenient mode of impregnating the urine with an alkali, is to administer the potass or soda in combination with a vegetable acid, especially with the acetic, citric, or tartaric. The mode in which these act is easily explained; when acetate, citrate, or tartrate of potass, are ignited, the acid absorbs oxygen, and is converted into carbonic acid and water, part of the former uniting with the alkali. In a similar manner are these salts decomposed during the process of healthy digestion; a carbonate finds its way into the circulation, and, reaching the kidneys, renders the urine alkaline. If, however, the digestive powers are impaired, the vegetable acid is only partly decomposed, and in some few persons it escapes the influence of digestion altogether. 114 grains of tartrate of potass, 106 of citrate, and 99 of acetate, absorb respectively 40, 48, and 64 grains of oxygen to be converted into carbonate of potass and water." Pp. 89–97.

The following comprise the author's views regarding the pathological source of excess of uric acid or urate in the urine.

"A. Waste of tissue more rapid than the supply of nitrogenised nourishment, as in	Fever, acute and rheumatic, inflammation, phthisis.
"B. Supply of nitrogen in the food greater than is required for the respiration and supply of tissue, as in	Excessive indulgence in animal food; or the quantity of food remaining the same, with too little bodily exercise.
"C. Supply of nitrogenised food not being in excess, but the digestive powers unable to assimilate it,	All the grades of dyspepsia.
"D. The cutaneous outlet for nitrogenised excretions being obstructed, the kidney is called upon to compensate for this deficient function,	All or most stages of disease attended with arrest of perspiration.
"E. Congestion of the kidney, produced by local causes,	Blows, and strains of the loins, disease of genital apparatus." P. 83.

The very generally received error, that an excess of uric acid always exists whenever a deposit of this substance, free or combined, occurs, is combated; and the author shows, that a mere diminution of the watery element of the

urine, or exposure of healthy urine to the cold of a winter's day, is competent to the production of a deposit of urate of ammonia, although this substance may exist in normal proportions. In like manner, any acid finding its way into the urine will cause a deposit of uric acid gravel, although no excess of this body exist.

The following are the conditions stated to be adequate to the production of crystalline uric gravel.

"A. An excess of this acid may exist, and be separated by the kidney, in too large a quantity to be all converted into urate of ammonia.

"B. The quantity of acid being normal, or nearly so, certain changes have occurred in the urine which have induced a separation from its solvent." P. 86.

Passing over an elaborate account of the microscopical and chemical character of uric deposits, we pause to transcribe the following remarks, which place, we think, *the general treatment of uric deposits* in a very simple point of view.

"Discarding altogether the existence of any specific agent for a disease which is rather symptomatic of another affection than really idiopathic, the therapeutical agents may be briefly referred to the following heads:—

"A. Attention to the function of the skin.

"B. Restoring the tone of the organs of digestion.

"C. Remedies acting as solvents of uric acid."

Among the solvent remedies, Dr Bird seems to place great confidence on the phosphate of soda, and states, that he has been successful in nine cases of uric acid gravel, by administering it in doses of ℈j to ʒss. The benzoic acid seems also to be a favourite remedy with the author, who, in accepting the practice from Mr Ure, rejects his theory; he recommends the following formula in cases of uric acid gravel:—

R. Sodæ carbonatis ʒiss.
Acidi Benzoici ℈ij.
Sodæ phosphatis ʒiij.
Aquæ ferventis ʒiv.—Solve et adde
Aquæ Cinnamomi f. ʒviiss.
Tincturæ Hyosciami f. ʒiv.
Fiat mistura: cujus sumet æger, coch. ij. amp. ter in die.

Passing over the intermediate Chapter, we come to Chapter VII, in which is a laborious description of OXALUREA, of which the presence of oxalate of lime in the urine is the characteristic symptom. This disease, first described by Dr Prout, has been most successfully investigated by Dr Bird, to whom we are indebted for the application of the microscope to the detection of oxalate of lime in the urine, thus rendering certain what, prior to his investigations, was merely a probable suspicion. Dr Bird has shown, that oxalate of lime is of very frequent occurrence in urine, in beautifully defined crystals, which, from their excessive transparency, escape detection unless sought for in the mode he has pointed out. In remarking on the etiology of this affection, he differs from Dr Prout in the source of the oxalic acid. He denies its connection with such assimilation of saccharine matter, and refers its origin to disease in process of primary digestion, or secondary metamorphosis of tissue,—believing that the elements, rich in nitrogen, instead of appearing as uric acid or urea, are arranged so as to form oxalate, or oxalurate of ammonia, which, by a secondary decomposition, induces the precipitation of oxalate of lime.

In reading the description of the symptoms of oxaluria, as well as the cases related by the author, in illustration, we cannot avoid being struck with the fact, that much of what is often regarded as "nervous irritability," "irritative dyspepsia," "dyspeptic hypochondriasis," &c., is practically referable to cases of development of oxalic acid in the system, and its appearance in the urine as a salt of lime. If experience proves this to be the case, the labours of the chemical physician will be regarded with gratitude in thus enabling us to treat with more success a distressing and frequent form of disease.

Our space will not allow us to do more than transcribe the conclusion arrived at, regarding the state of the urine in this disease—referring our readers for an account of its treatment to the work itself.

"1. That in the urine, under consideration, oxalate of lime is present, diffused through the fluid, and in a crystalline form.

"2. That in rather more than one-third of the cases, uric acid, or urate, existed in large excess, forming the greater bulk of the existing deposit.

"3. That in all there exists a greater proportion of urea than in natural and healthy urine of the same density; and in nearly 30 per cent. of the cases, so large a quantity of urea was present, that the fluid crystallised into a nearly solid mass on the addition of nitric acid.

"4. That the urate of ammonia, found in the deposit of oxalic urine, is occasionally tinted of a pink hue.

"5. That an excess of phosphate frequently accompanies the oxalate.

"6. That no evidence of free sugar has occurred in the specimens I have examined." P. 135.

The Chapter on the Pathology of the Earthy Salts (phosphate of lime, ammonia, phosphate of magnesia, and carbonate of lime) is well worthy of careful study, on account of the serious character of the lesions accompanying an abnormal secretion of these elements of the urine. The following extracts appear of peculiar importance in connection with the pathology, and therefore of the morbid state in question.

Regarding the *diagnostic indications* afforded by the urine, the author remarks that, "as a general rule, where phosphatic deposits, whether magnesian, calcareous, or both, exist for a considerable time, the urine is pale, often whey-like, generally secreted in very large quantities, and of low specific gravity, (1.005—1.014). This is especially the case where organic lesions of the kidneys exist. On the other hand, when the deposits are of occasional occurrence, after disappearing and recurring in the course of a few days, the urine generally presents a deep amber colour, and is not only of high specific gravity, (1.020—1.030), but often contains an excess of urea, and presents an indistinct pellicle on its surface by repose. This is especially the character of the phosphatic urine secreted under the influence of some forms of irritative dyspepsia, and where the phosphates themselves may be traced to mal-assimilation. Again, phosphatic urine may be met with, varying from a pale whey-like hue to deep brown, or greenish brown, exceedingly fœtid, generally, but not constantly, alkaline, and loaded with dense ropy mucus, often tinged with blood, and in which large crystals of the triple phosphate, and amorphous masses of phosphate of lime are entangled. This variety is almost always met with, either under the irritation of a calculus, or even of a catheter worn in the bladder, or where actual disease of its mucous lining exists." Pp. 171, 172.

In connection with *prognosis*, he observes,

"From all the experience I have had of phosphatic deposits, I feel confidence in offering the following as a safe indication, from chemical observation, and one of great service in practice.

"That, where the presence of a deposit of phosphate is independent of the irritation of a calculus, or of organic disease, it is most abundant in the urine passed in the evening, (urine of digestion), and absent, or replaced by uric acid or urates, in the morning, (urine of the blood), the urine being always of tolerably natural colour, never below, and often above the mean density.

Where the presence of phosphatic salt depends on the irritation of a calculus, or of organic mischief in the urinary passages, the urine is pale and whey-like, of a density below the average, often considerably so, and the earthy deposit is nearly equally abundant in the night and morning urine." P. 189.

In connection with treatment,—

"In considering the indications for treatment, in cases where the phosphates appear in the urine in excess, it will be necessary to regard at least four different pathological conditions, the existence of one or other of which must be deduced from the symptoms present.

"A. Cases in which dyspepsia, with some febrile and nervous irritation, exists independently of any evidence of antecedent injury to the spine.

"B. Cases characterised by high nervous irritability, with a varying amount of marasmus, following a blow or other injury inflicted on the spine, but without paralysis.

"C. Cases in which the phosphatic urine co-exists with paraplegia, the result of spinal lesion.

"D. Cases of diseased mucous membrane of the bladder." Pp. 191, 192.

"The treatment of the first class of these cases must be rather directed by general principles, than limited to the solution of the phosphatic deposits. It is true, that by the persistent administration of acids the deposit may disappear for a time, but the ailment goes on; all that is effected by such treatment is to mask a symptom, and an important one, of the progress of the malady. After having attended to the morale of the case, as far as possible rousing the patient from any morbid influence excited in his mind, whether real or imaginary, the next thing is to attend to the general health. The bowels should be freed from any unhealthy accumulation, by a mild mercurial laxative, as a few grains of pil. hydrarg., followed by a dose of rhubarb or castor-oil; but all active purging should be avoided, as it generally aggravates the distress of the patient, and decidedly interferes with the success of the treatment. A combination of a tonic laxative, with a sedative, may then be administered, as tinct. hyoscyami et sp. ammon. aromatici āā ℥xx—℥ss. ex mist. gentianæ co. ℥j. ter in die. If the bowels be irritable, the inf. cascarillæ, or inf. serpentariæ, may be substituted for the mist. gentianæ comp. Should gastrodynia exist, great relief will be obtained by the administration of half a grain of oxyde of silver, made into a pill with confection of opium, before a meal. The diet should be very carefully regulated, all bland nutritious articles of food being preferred; vegetables should be avoided, and in general a small quantity of good sherry may be allowed. By a plan of treatment of this kind, the patients generally do well, and the phosphates and excess of urea vanish from the urine. As the patient approaches convalescence, much good is often effected by the use of sulphate of zinc, in gradually increasing doses, beginning with a grain thrice a-day, made into a pill with a little ext. hyoscyami, or ext. gentianæ, and increasing the quantity every three or four days, until five grains or more are taken at a dose. Under the use of the zinc, I have seen many cases do well, whose symptoms approached in severity and character those of mild delirium tremens. I need hardly say, that change of scene and occupation are important adjuvants to our medical treatment.

"The second class of cases, characterised by a much higher amount of nervous irritability, and of a rapidly progressing emaciation, are much less frequent than those just alluded to, and are far less amenable to treatment.

"In these, the phosphatic deposit is often copious and sometimes consists nearly exclusively of phosphate of lime; the lumbar pain and weight are considerable, the skin often dry and scarcely perspirable; in some cases, indeed, I have seen it look as if varnished; the tongue, sometimes white, is often red; the thirst often great; indeed, the general appearance of the case closely resembles one of diabetes. The urine is generally more copious than natural, frequently pale, and of a specific gravity below the average. On investigating the patient's history, some evidence of a previous strain or wrench of the back, or a blow over the spine, is always elicited. These patients are seldom hypochondriacal; but intense irritability of temper, and a painfully anxious expression of countenance and manner, are almost invariably present.

"In the treatment of these cases, the great end and aim must be to subdue the morbidly irritable state of the brain and nervous system; and subsequently, by a generous diet and persistent use of those tonics which appear especially to exert their influence on the organic nerves, as silver, bismuth, zinc, &c., to endeavour to restore the assimilative functions to their due vigour. Besides the general indications to be fulfilled by regulated diet, amusements, exercise, &c., the use of narcotics, especially of opium, or the preparations of morphia, should be regarded as of the highest value; and we are indebted to Dr Prout for first directing the attention of the profession to their use.

"The case of this affection recorded by Dr Prout was one of peculiar severity, and I have never had but one case before me in practice which at all equalled it. I can, however, add my testimony to the efficacy of narcotics in the cases I have seen. Morphia appears to me to be somewhat preferable to crude opium, and under the persistent use for seven weeks of one-third or one-half a grain of the acetate, three or four times in the twenty-four hours, the deposit has vanished from the urine, and the patient done well. In these, as in the preceding class of cases, the shower-bath, and cold douche over the loins, followed by friction with horse-hair gloves, have been of essential service. To succeed in these cases, the treatment must be persistent, for they are essentially chronic in their character; and if remedies be intermitted too soon, may end in fatal marasmus, and in some, in the formation of a calculus.

"Cases occasionally occur in which the symptoms are of a much milder character, but which insidiously go on to the formation of a calculus. It is in these in particular that the use of acids is called for, to hold the phosphatic salts in solution, and prevent their being moulded into a concretion in the pelvis of a kidney. Unfortunately there is a great uncertainty attending their use; sometimes the mineral acids appear to reach the urine, and destroy its alkaline character; often, however, even their continued employment appears to be utterly ineffectual in rendering the urine acid. So far as I have watched cases of this kind, the nitric acid has appeared to produce the smallest amount of gastric derangement, and to render the urine acid, or at least diminish its alkaline re-action. In one case lately, in which the nitric acid could not be borne, the phosphoric appeared to succeed. Mr Ure has recommended the employment of benzoic acid, under the idea of its reaching the urine as hippuric acid; and he has recorded the history of a case thus treated. I confess, that in my hands this drug has not appeared to succeed, and when it is recollected that hippuric acid requires about four hundred parts of water for solution, and that it reaches the urine combined with bases, and not in a free state, we can, I think, hardly place much confidence in it as a solvent for the earthy phosphates.

"The third class of cases, or those in which the phosphates are probably entirely secreted with unhealthy mucus by a diseased lining membrane of the bladder, are familiar to every practitioner. Chronic cystitis or cystorrhœa, and retention of urine from stricture of the urethra or enlarged prostate, may, and often do, lead to this state of things. Here, of course, the primary affection, and not its effect, the deposit of phosphates, must be the great object of treatment. The urine is often very fœtid and pale, sometimes green, and almost viscid from the abundance of mucus. On placing some of the latter between plates of glass under the microscope, abundant crystals of the triple phosphate are seen entangled in it. One point of great practical consequence must be borne in mind, in forming a prognosis from the state of the urine, viz., not to regard it as ammoniacal, because the odour is offensive; and not to consider the deposit as purulent, because it looks so. A piece of litmus paper will often show the urine to be really acid, and microscopic inspection often proves that the puriform appearance of the urine is owing to abundance of phosphates with mucus. For want of these precautions I have seen one or two cases regarded as almost hopeless, which afterwards yielded to judicious treatment. It is quite certain that the mucous membrane of the bladder may, under the influence of chronic inflammation, secrete so much of the earthy phosphates and unhealthy mucus as to render the urine puriform and offensive, without having necessarily undergone any structural change.

"A few cases have occurred to me in practice, in which the kind of urine just referred to was secreted for a long time, and yet yielded readily to treatment. In these, the greatest good has arisen from freeing the bladder from the phosphates which appear almost to incrust it, by acid injections. In this way, cases have occasionally yielded, which have quite defied all other treatment.

The 10th Chapter is devoted to an examination of the Morbid States of Urine Depending upon the Presence of one or more of the Elements of Blood, and other

Products of Organisation. We pause to notice the diagnostic character of bloody and albuminous urine. These are perhaps of greater importance than are the others of the morbid changes to which the urine is liable, on account of their too generally indicating structural change in the kidney. Since the great discovery of Dr Bright, regarding the almost necessary connection between coagulable urine, and some stage of granular degeneration of the kidney, the attention of the profession has been particularly directed to a class of serious cases, which, however much they may differ in the symptoms they present, have nevertheless the common pathological character of being dependent upon renal mischief. Although much has been done in the investigation of the concomitants and consequences of renal disease, yet it must be confessed, that much more remains to be accomplished. We can hardly be accused of exaggerating the importance of this subject, when it is recollected, that the kidneys are the great depurating organs of the blood, *quoad* the effete nitrogenised elements of mal-assimilated food, and of exhausted tissue. When, therefore, the functions of the skin are so far impaired as to prevent these organs filtering off the elements of urine from the circulating fluid, these matters exert a lethal influence on the system, and the patient, unless relieved, sinks from the effects of a poison generated in his own organism.

Although willing to admit that red particles of blood and albumen may, for a short time, appear in the urine, without of necessity involving anything more than mere temporary functional derangement of the kidneys, still our experience induces us to agree completely with the opinion announced by Dr Bright, that albuminous urine cannot exist as a constant symptom without indicating, and being dependent upon some one or other pathological state, leading to a granular state of the kidneys. On the other hand, it is by no means improbable, that renal disease may exist without albuminous urine, although the converse does not appear to be the case. The detection of the elements of blood being thus important, we hardly need an excuse for extracting the following.

"*Albumen* may readily be detected in urine containing it, by the production of an opacity on the application of heat. This experiment, where any amount of accuracy is required, should always be performed in a clean test-tube, heated over a spirit-lamp. The clumsy mode of heating it in a metallic spoon over a candle, although answering the purpose very tolerably when a glass tube cannot be procured, is infinitely inferior in the delicacy of its indications. If a large quantity of albumen be present, the urine will become quite solid on the application of heat, and will vary from this state to the production of a mere opalescence, according to the quantity existing in the urine. It is a curious fact, that the greatest amount of coagulation by heat, is often found in urine either free from, or containing but a small quantity of, the colouring matter of blood. The dingy red urine in granular disease of the kidneys, generally deposits less albumen by heat than when it is straw-coloured, and nearly free from hematosine.

"Albumen does not require actual ebullition for its coagulation by heat; if any be present in urine, the latter becomes opaque long before a bubble of vapour is evolved.

"The addition of a drop of nitric acid to albuminous urine immediately produces a copious coagulation of the albumen; but if any mere traces of the latter be present, the opacity first produced will disappear by agitation, and will re-appear by the addition of a second drop of the acid.

"*As a general rule*, if urine becomes opaque by heat, and on the addition of nitric acid, albumen is present. It is important to bear in mind that certain sources of fallacy exist when one only of these tests is used.

"(1.) Heat will produce a white precipitate in urine containing an excess of earthy phosphates. *It is distinguished from albumen by disappearing on the addidition of any drop of acid.*

"(2.) Heat being applied to urine containing deposits of urate of ammonia, will sometimes, if actual ebullition be prolonged, produce a deposit of an animal matter, insoluble in nitric acid. This is rare, *but is distinguished from albumen by being deposited only after protracted ebullition.*

"(3.) Nitric acid will often produce white deposits in the urine of patients under the influence of copaiba, cubebs, and perhaps some other resinous diuretics. *It is distinguished from albumen by not being produced by heat.*

"(4.) Albumen may be present in urine and not be precipitated by heat, providing the secretion be alkaline. If, therefore, urine, suspected to be albuminous, is capable of restoring the blue colour of reddened litmus paper, *nitric acid must be used as the test*, as albumen, when combined with alkalies, does not coagulate by heat.

"(5.) It may occasionally happen that albumen may be present in the same incipient or hydrated state in which, according to Dr Prout, it occurs in chyle. Heat scarcely affects this variety of albumen, except by protracted ebullition; but nitric acid immediately coagulates it. This form of albumen must be regarded as rather possibly than probably occurring in urine. I have never met with it.

"*Hematosine* is the colouring matter of the blood, normally contained within the delicate sac of the corpuscles, particles, discs, or globules of blood; all these terms being synonymous. When hematosine exists, the urine is always more or less coloured by it, and a few entire corpuscles are always present floating in the fluid. It never occurs unaccompanied by albumen, and being acted upon by tests in a similar manner, the remarks already made on the latter substance apply equally to hematosine, excepting that the deposits produced by heat or nitric acid, are always brown instead of white. M. Pariset has proposed the following process for the detection of blood in urine, as least liable to fallacy. Boil the urine and filter it. Brown coagula of hematosine and albumen will be left in the filter; pour on these liquor potassæ, and if hematosine be present, a greenish solution will pass through, from which hydrochloric acid will precipitate white coagula of protein. The following, in addition to those mentioned as affecting albumen, are the most serious sources of fallacy in the detection of hematosine.

"1. *Purpurine*, when present in the urine, will often communicate to it so intense a colour, as to cause the patient to report his urine to be bloody. *Distinguished by not being affected in colour or transparency by a boiling heat.*

"2. *Uric acid*, when present in concentrated urine,—as in the first week of fever,—is often immediately precipitable by nitric acid, brown coagula, much resembling those of hematosine, falling; but which are really composed of extremely minute crystals of uric acid. *Distinguished by not being affected by heat, and by the microscopic character of the deposit.*

"3. *Bile*, or at least its colouring ingredient, often tints the urine of a deep brown colour, and may lead to an unfounded suspicion of the presence of blood. One or other of the following tests will at once detect bile, or its colouring matter, in a fluid.

"*a.* Pour on a white plate a small quantity of the urine, or other fluid, so as to form an exceedingly thin layer, and carefully allow a drop or two of nitric acid to fall upon it. An immediate play of colours, in which green and pink predominate, will, if bile be present, appear around the spot where the acid fell.

"*b.* Add to a few drops of the suspected fluid, on a white plate, a little strong sulphuric acid; when the mixture becomes hot, add a drop of a saturated solution of sugar. The mixture will immediately assume a fine purple colour if bile exist. (Pettinkoffer.)

"4. *Hematorylon*, administered as a medicine, will often, by the red colour it communicates to the urine, lead to an unfounded suspicion of the existence of hematosine. *Distinguished by the dark precipitate produced by sulphate of iron, and by absence of coagulation by heat.*

"5. *Pareira* and *Chimaphila* will both sometimes communicate a dark brown tint to the urine; but the absence of all the characteristics of albumen and hematosine will distinguish it from the colour produced by blood." Pp. 225–230.

The following is the Treatment recommended in cases of Albuminuria, Occurring in Children after Scarlet Fever.

"I may remark, as a prophylactic remedy, that the warm bath is invaluable;

I scarcely recollect, even in a large experience, a case of dropsy after scarlet fever occurring, when the warm bath was daily used as soon as the skin began to exfoliate, and continued till a perspiring healthy surface was obtained. When anasarca has occurred, strict confinement to bed, or at least to a warm room, must be enjoined, the warm bath used twice a-week, and a free action on the skin encouraged. The bowels should be kept acting by the pulvis jalapæ compositus, and the antimonii potassio-tartras administered in doses varying from one-twelfth to one-eighth of a grain, four or five times in the twenty-four hours, according to the age and strength of the patient. A bland, and nearly fluid, but moderately nutritious diet should be enjoined. This plan must be continued until all anasarca has vanished, a supple and perspiring surface obtained, and urine free from albumen. The remedies may then be gradually left off, a more nutritious diet allowed, and the ammonio-citrate of iron administered thrice daily, in doses of three to five grains, to remove the anæmiated state of the patient. On leaving the bed-room, a flannel-waistcoat, extending to the loins, should be worn for some time. This treatment has been almost invariably successful in every case I have employed it, and I may remark, that I have never, in these cases, witnessed the excessive prostration said by some to be the almost necessary result of the employment of antimony in the diseases of children." Pp. 235, 236.

In giving an account of the different modes proposed for the Detection of Saccharine Matter in the Urine, Dr Bird explains the process by MM. Biot and Bouchardat by circular polarization. He objects to it on account of the practical difficulties attending its application in practice, especially by those who happen not to be familiar with physical manipulations.

As the most trustworthy tests for sugar, properly so called, he enumerates the two copper tests, and the potass test lately proposed by Mr Moore.

"1. *Trommer's test.*—Add to the suspected urine in a large test-tube just enough of a solution of sulphate of copper to communicate a faint blue tint. A slight deposit of phosphate of copper generally falls. Liquor potassæ must then be added in great excess: a precipitate of hydrated oxyde of copper first falls, which redissolves in the excess of alkali if sugar be present; forming a blue solution like ammoniuret of copper. On gently heating the mixture, a deposit of red suboxide of copper falls if sugar be present."

k We are surprised to find that no notice is taken of the objections to Trommer's test, which were published in this Journal, (July 1844, p. 564), by Mr W. T. Gairdner. If the observations of this gentleman be correct, the value put upon the test by Dr Bird is far too high.

"2. *Capezzuoli's test.*—Add a few grains of blue hydrated oxyde of copper to urine contained in a conical glass vessel, and render the whole alkaline by the addition of liquor potassæ. If sugar be present, the fluid assumes a reddish colour, and in a few hours the edge of the deposit of oxyde assumes a yellow colour, which gradually extends through the mass, from the reduction of the oxyde to a metallic state.

"3. *Moore's test.*—This very easily applied test was lately proposed by Mr Moore, of the Queen's Hospital, Birmingham, and depends for its action on the conversion of colourless diabetic sugar into brown molassic (or perhaps saccharine) acid, under the influence of a caustic alkali. Place in a test-tube about two drachms of the suspected urine, and add nearly half its bulk of liquor potassæ. Heat the whole over a spirit-lamp, and allow actual ebullition to continue for a minute or two; the previously pale urine will become of an orange-brown or bistre-tint, according to the proportion of sugar present. This test appears to be remarkably free from sources of fallacy, as boiling with liquor potassæ rather tends to bleach non-saccharine urine, than to deepen its colour." Pp. 278–279.

The 11th Chapter is devoted to certain Considerations regarding the Mode of Directing the effects of Remedies intended to influence the Function of the Kidneys.

These are evidently proposed, on the belief that absorption of fluids from the stomach and small intestines occurs chiefly by the veins. This view may indeed be debated, for it is by no means proved that venous absorption is always active, so long as the absorbents, properly so called, are in a state of integrity. It is true, that the very great rapidity with which fluids taken into the stomach find their way into the kidneys, is an important argument in favour of direct absorption through the walls of the venous capillaries of the stomach and intestines, and on this apparently are founded the peculiar therapeutical opinions promulgated by the author and his colleague Dr Barlow. Our space will only allow us to transcribe the general laws, and their assumed consequences.

"*Law* 1.—All therapeutical agents intended to reach the kidneys, must either be in solution when administered, or capable of being dissolved in the fluids contained in the stomach or small intestines, after being swallowed." P. 233.

"*Law* 2.—Bodies intended to reach the kidneys, must, to ensure their absorption, have their solutions so diluted as to be of considerably lower density than either the liquor sanguinis, or serum of blood, (*i. e.* below 1.028.)' P. 284.

"*Law* 3.—If a sufficient quantity of water cannot be received into the small intestines, or the circuit through the portal system, in the vena cava ascendens, or thence through the lungs and heart into the systemic circulation be obstructed, or if there be extensive disorganization of the kidneys, the due secretion of urine cannot be effected." P. 290.

"Of the third law we have an excellent illustration in the action of mercury and other cholitic drugs in 'directing,' as it has been termed, the action of a diuretic. Thus, let us suppose we are called to a patient in whom a sluggish state of the portal circulation exists, the liver being congested or myrsticated; and from some dropsical effusion, we are anxious to stimulate the action of the kidneys. It is notorious that, in these cases, the acetate of potass, nitric, ether, squill, and other active diuretics may be prescribed in vain; but as soon as moderately frequently repeated small doses of pil. hydragyri, or hydrarg. c. creta, or even aloetic remedies have been administered, and the liver disgorged of its contents by a free secretion of bile, the kidneys begin to act as the almost necessary result of a readier circulation of portal blood. Perhaps there is no diuretic so valuable in dropsy connected with contracted liver, as a combination of squill with a little blue pill. Many remedies regarded as diuretic probably really act in this manner; thus, colchicum appears to influence the secretion of urine by its stimulating the mucous membrane of the duodenum, and thus irritating the orifice of the common choledic duct, produces an increased secretion of bile and pancreatic juice, and indirectly removing a loaded state of liver. Taraxacum, a deservedly esteemed cholagogue, owes its diuretic action, in all probability, to a similar cause. Aloes in small doses, and some other remedies, may be referred to this category." P. 292.

The following are some Practical Conclusions offered by Dr Bird as resulting from his therapeutical views of "renal" remedies.

"1. Whenever it is desirable to impregnate the urine with a salt, or excite diuresis by a saline combination, it must be exhibited in solution, so diluted as to contain less than five per cent. of the remedy, or not more than about twenty-five grains in an ordinary draught. The absorption of the drug into the capillaries will be insured by a copious draught of water, or any diluent immediately after each dose.

"2. When the urine contains purpurine, or other evidences of portal obstruction exist, the diuretics or other remedies employed should be preceded or accompanied by the administration of mild mercurials,—taraxacum, hydrochlorate of ammonia, or other cholitic remedies. By these means, or by local depletion, the portal vessels will be unloaded, and a free passage obtained to the general circulation.

"3. In cases of valvular or other obstructions existing in the heart and large vessels, it is next to useless to endeavour to excite diuretic action, or appeal to the kidneys by remedies intended to be excited by them. The best remedies here, will be found in whatever tends to diminish the congested state of the vas-

cular system, and to moderate the action of the heart; as digitalis, colchicum, and other sedatives, with mild mercurials."

In bringing before our readers the truly admirable volume of Dr Bird, our object has been to transfer to our pages some of those portions of it which are most distinguished by their originality, or practical importance. We feel confident that our analysis will interest and instruct those who peruse it; but we trust that it may also be the means of inducing some of our readers to purchase the treatise, that they may be able to refer to it, in the emergencies of practice, as a guide in the diagnosis and management of that important class of diseases of which it treats. It is certainly a volume which ought to find a place on the shelves, or be within the reach, of every scientific physician.

Minor Surgery; or, Hints on the Every-day Duties of the Surgeon. By HENRY H. SMITH, M.D., *Lecturer on Minor Surgery.* Pp. 303. Philadelphia, 1843.

The American Publishers inherit, in an eminent degree, the peculiarities of their nation. They are an enterprising, "go-a-head" generation. No sooner is a work of merit, or one from an author of reputation, ushered into the world, than forthwith, by the instrumentality of indifferent types, and worse paper, it is disseminated throughout the length and breadth of the New World. The most common and popular plan of proceeding, is to append notes by some writer whose name is familiar to American ears, "so as to bring the work to a level with the state of knowledge in the United States." The book before us, however, is neither a translation nor a re-publication. Its author, with what right we will ascertain by and by, lays claim to greater pretensions. The signification in which the term Minor Surgery is received by him is explained in the Introduction:—

"In the strict acceptation of the term, Minor Surgery means that portion of Surgery proper, which treats of the minor surgical operations, and the employment of such means for the cure of diseases, as do not require the division of our tissues, or in other words, constitute a *capital operation.* Under this head is, therefore, included the preparation and application of dressings; the treatment of fractures and dislocations, and such minor operations and duties as every surgeon is hourly called on to perform, and on the proper performance of which rests much of his reputation; as, though apparently simple and too often looked upon as matters which any one can attend to, yet in reality difficult, and requiring much method and ingenuity to adapt the means to the end in view.

"In the systematic consideration of the subject, four divisions naturally present themselves:—1st, Dressings; 2d, Bandages; 3d, Apparatus for Fractures and Dislocations; and, 4th, Minor Operations." P. 13.

Dr Smith informs us, in the preface to the volume, that in the execution of the task, he has drawn freely on the works of MM. Velpeau, Gerdy, Mayor, and *others*, as well as upon many practical details obtained from the distinguished surgeons of the Pennsylvania Hospital, during a residence under them in that institution.

By allotting to each of the distinguished authors referred to, and to one who must be included in the somewhat comprehensive class "*others*," their contributions to this treatise, we fear few practical details will fall to be claimed elsewhere. He has certainly made free use of the works of Velpeau, Gerdy, and Mayor; but there is one party whose name we have failed to discover in the book, whose labours have very materially contributed to facilitate Dr Smith's task. Our surgical readers are familiar with the name and writings of one Thomas Cutler, M.D., late staff-surgeon in the Belgian army. Dr Smith would seem to be totally ignorant of the existence of such a distinguished

labourer in the field of "Minor Surgery," for, as has been already hinted, he makes no reference whatever to the "*Surgeon's Practical Guide in Dressing, and the application of Bandages.*" He *has*, however, seen, read, and borrowed, page after page, copied wood-cut after wood-cut, from the work of Dr Cutler; but he has followed the practice, too common we fear on both sides of the Atlantic, of omitting to notify the source from which he has pilfered his paragraphs and pictures. It is always unpleasant to prefer a charge, which, directly or indirectly, calls in question a writer's good faith; but we feel compelled, as impartial journalists, to state, that Dr Smith has quoted from Cutler's work *verbatim et literatim*, to a very great extent. Indeed, in our opinion, all the really practical matter in the "*Minor Surgery*" is copied; and much of the useful information contained in the "*Surgeon's Guide*" has been omitted, to make room for what can be of no practical advantage to even the youngest member of our profession. It would indeed be a work of supererogation, even did our limits permit, to point out all the passages which Smith quotes from Cutler. As a specimen, however, we append the following:—

Smith's Minor Surgery; 1843.

"Uniting of one Side, or a Bandage for Wry Neck.—*Composition.*—A single-headed roller, three yards long and an inch and a half wide;—some soft compresses, or a cushion to protect the axilla against the pressure of the roller;—and a napkin to surround the trunk.

"*Application.*—The initial extremity, *a*, of the roller, being directed toward the affected side, is placed upon the middle of the forehead, and fixed by a few horizontal circulars; these should be secured with pins. The remainder, *b*, of the roller, is then carried behind the shoulder opposed to the side affected, and under the axilla, where the cushion or padding ought to be previously placed, and thence to the fore part of the napkin, to which it should be firmly stitched; care being taken, however, to pull the head over with sufficient force to restore it to its natural position.

Use.—In cases of spasm or paralysis of the sterno-cleido-mastoidean and platysma-myoides muscles. It raises the head, brings round the face forward, and, when the affected parts have been operated on, opposes itself to the contractile efforts of the antagonist muscles.

Professor Jörg's Apparatus for the same.—This apparatus consists of a pair of leather stays, and of a band or fillet for the head; on the centre of the forepart of the stays is a sort of pulley or groove, which can be turned round with a key in one direction, but becomes fixed in the other, through the means of a spring; a band passes obliquely upwards from the pulley to

Cutler on Dressing and Bandages; 1834.

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Smith's Minor Surgery; 1843.

the fillet, to which it is attached behind the ear; when the band is drawn downwards by the pulley, it lowers the mastoid process, and approaches it to the sternum; it counteracts in this way the antagonisting muscles, and restores the head to its natural position." P. 108–110.

"LACED BANDAGE FOR THE KNEE.—This is made of an elastic tissue, as buckskin or kid, which is lined with India-rubber, and laces at the side, as seen in the drawing. It is sometimes employed where constant compression is required, as after dislocations of the patella." P. 120.

"The *Seton* is a narrow strip of soft linen rag, of one, or one and a half inches in width, with a few of its longitudinal threads drawn out from each side, so as to leave a rough or jagged border, and intended to keep up irritation and suppuration in a part, and thus act as a revulsive from other parts. A skein of silk, a piece of silk braid, or, what is still better, on account of its cleanliness, a strip of gum-elastic, may be substituted. The introduction and dressing of the seton will be treated of hereafter." P. 32.

Cutler on Dressing and Bandages; 1834.

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"WEISS' ELASTIC KNEE-CAP.—It is made of elastic tissue lined with India rubber, being at the sides as seen in the drawing. It is much preferable to the common figure of 8 bandage, when compression is required." P. 156.

"The *Seton* is a narrow strip of soft linen rag, a few of the longitudinal fibres of which are drawn out from each side, leaving a rough or jagged border, or a skein of silk or thread, or better still, as it is much more cleanly, a slip of elastic gum about four inches long; it is used for exciting inflammation and suppuration, by being pushed through a fold of the skin, in a needle made for the purpose." P. 10.

It is difficult to discover any thing new or original in such a work as this; but we are not aware that the instrument referred to in the following quotation is used in human practice in this country, although we have frequently seen it in the hands of the Veterinarian.

"*Of Bloodletting.*—By this term, we understand the use of every means of taking blood from the body, employed with a view of relieving or curing disease. These operations may, therefore, be divided into several kinds, according as they are practised upon the superficial veins by means of lancets, leeches, cups, &c., or upon the arteries. When the extraction of blood is made by a single opening, *cut* in one of the veins, it takes the name of Phlebotomy, or General Bloodletting; when from an artery, that of Arteriotomy; and when done by the aid of leeches, or cups, it is especially designated as Local Bleeding. First—

"*Of Phlebotomy.*—This operation is practised upon the veins of various parts of the body, as at the bend of the arm, the back of the hand, the leg, or the neck, though the first is by far the most common. At the point where this is performed, we find generally five veins arranged, so as to form a figure not unlike the letter M. These are the Cephalic, the Basilic, the Median, and the Median Cephalic, and the Median Basilic; for the surgical anatomy of which, we must refer to other works, as a proper description of their relations would be too diffuse for a work like this.

"The easiest vein to bleed in at the bend of the arm, is the Median Basilic, but it is at the same time more dangerous than the Median Cephalic, on account of its position to the artery, and to branches of the internal cutaneous nerve. Generally, however, we take the fullest vein, provided the artery is not too near, and leave the nerves to chance. In thin persons, the veins are more prominent and distinct than in fat ones, but they are also more likely to roll under the lancet; whilst in fat people, they are more firm, though less easily seen: we must, therefore, accustom ourselves to bleed by the touch, rather than the sight; and to do this, practise our fingers on deep-seated veins, or those in fat

arms, till we can distinguish the elastic feel of a vein, from the tenseness of the tendon, or the pulsating cord of an artery.

"*Operation.*—Previous to bleeding at the bend of the arm, a simple circular bandage, or a ligature, should be placed, with moderate firmness, just above the elbow, so as to arrest the circulation of the veins. It must not, however, be so tight as to arrest that in the arteries, as may be always told by placing the fingers on the pulse. After a certain amount of friction to fill the veins, the fore-arm is either held in an extended position by an assistant, or placed between the chest and the bend of the surgeon's arm, or in his axilla, or the patient may rest his hand on the top of a stick. The surgeon then feels under the vein, by making firm pressure on it, for the position of the artery, and if it is felt pulsating, should open the vein by a more horizontal cut than is usual, or choose another vein, or change the relative position of the vein and artery, by strongly pronating the hand. He then places the thumb or fingers of his left hand on the vein below the point at which it is to be opened, in order to steady it; and holding the lancet in his right hand, and facing the patient, if he is bleeding in the right arm, or in the same hand, with his back to the patient if in the left arm, he cuts through the integuments, and opens the anterior parietes of the vein, still pressing on the vein, below the opening, with the left hand. The basin or cup to hold the blood being previously placed, and the clothes around being protected by a sheet, he then removes this hand from off the vein, and immediately the blood flies into the bowl. This is a neater plan than that of allowing the blood to escape immediately after the vein is opened, as it protects the clothes or bed from the blood.

"The lancets with which we bleed are of two kinds, viz. the Spring and the Thumb Lancet; and either is used, according to the views of the operator, or the wishes of the patient, there being no material advantage in the use of one rather than the other.

"If the Spring Lancet is preferred, it should be held between the fore finger and thumb of one hand, with its blade obliquely to the circumference and axis of the vein; so that, on the spring being touched by the middle finger, the blade may be driven into the vein obliquely to its axis, and also a little on its side, as we are then less likely to wound subjacent parts.

"If, however, the Thumb Lancet is the one used, bend its blade to a right angle with the handle, and place it in the mouth, with the point of the blade turned from the hand that is to take it. Otherwise, when, after completing the preliminaries, we put the hand to the mouth to seize the instrument, we should be apt to injure ourselves by sticking its point into our own hands.

"In using this lancet, seize the blade between the thumb and fore finger of the hand that we prefer, and rest the third finger of the same hand on the arm as a point of support; then placing the point of the lancet on the vein, push it suddenly inwards, upwards, and outwards, depressing the handle in a circle, so as to make a free incision in the line before spoken of; and having drawn the amount desired, undo the ligature above the elbow, seize the skin about the opening between the thumb and fingers, so as to close the wound, and wiping the arm clean from the blood, place a small compress over the opening, confine it by adhesive strips, or by a figure of 8 bandage of the elbow, as before spoken of, and place the patient in an easy position. Particular attention should be paid to the cleansing of the lancet after the operation, in order to prevent difficulty in our next call for its use, as a dirty lancet frequently causes abscesses of the part, gives rise to phlebitis, and endangers the life of the patient. If the opening in the skin and that in the vein do not correspond, a bloody tumour, called a thrombus, will be formed from the blood escaping into the subcutaneous cellular substance. To remove this, enlarge the opening in the skin, and press upon the tumour; or else leave it to be absorbed by nature, assisted by moderate pressure." Pp. 276—280.

"In taking leave of Dr Henry H. Smith, and his Minor Surgery, we respectfully suggest the propriety of his acknowledging in future the authorities from which he culls the treasures, which he conceives to be "adapted to the wants of the Student and Young Practitioner of the United States."

PART THIRD.

PERISCOPE.

SURGERY.

Method of Obliterating Veins. By Dr Pagani.

The communication of Dr Pagani is intended to demonstrate the superiority of a temporary and *mediately* applied ligature, as compared with that of a subcutaneous one. Nine cases of ligature of the vein are reported by the author; in six of these the ligature was applied *subcutaneously* to the saphena, and in one to the spermatic vein. His mode of operating is as follows:—He seizes the vein between the fingers, and raises it along with a fold of the skin; he then passes under the vein a sharp and somewhat slightly curved needle, provided with a simple wax thread; letting go his hold, he afterwards raises the skin alone, and passes the needle anew above the vein through the previous openings; he then moderately compresses the vein, passes a knot upon the thread, and cuts off one of the ends, leaving the other.

The three remaining cases were treated by means of the *mediate* ligature; in two of these the spermatic veins were affected, in the other, the saphena, with varix of long standing. By this method, peculiar to himself, and which he prefers to every other, he endeavours to select a portion of the vein which is healthy, or nearly so, and proceeds as follows:—He raises the skin and vein in the same manner as for subcutaneous ligature, passes under the vein a sharp needle provided with a double ribbon-shaped thread; he then applies a small cylinder of cloth upon the skin, and ties the end of the ribbon over this, slightly compressing the underlying vein; the only after treatment he adopts is the application of pledgets dipped in vinegar and water. The ligature is removed forty or fifty hours after the operation. The following are Dr Pagani's conclusions:—

1*st*, Such operation is harmless, and there is reason to believe it will succeed in the majoriry of cases, if only simple applications are used.

2*d*, The operation may be performed if there are no evident inflammatory complications; all preparatory means are superfluous.

3*d*, It is unnecessary to restrict patients to rigorous diet; in three or four days they may be considered convalescent, but they ought to be kept in bed.

4*th*, By the operation of the mediate ligature, without opening the vein, the vessel may be obliterated in forty-seven hours.

5*th*, By the rapidity with which the operation may be performed, and the facility of recovery, it appears to deserve a preference over any other operative process.—*Gazetta Medica di Milano*, November 1844.

External Application of Digitalis. By Mr Jackson.

Mr Jackson applies, with great advantage, digitalis, in the form of a liniment, made with the powdered leaves and honey; *first*, To scrofulous ulcers generally, where the bones are not affected; *secondly*, To those ulcerations about the joints, in which the bones are frequently implicated; and, *thirdly*, To scrofulous sores, directly depending on disease of the bone.—*Prov. Med. Journal*, June 12, 1844.

FORENSIC MEDICINE.

Trial of James Gibson for Fire-Raising. What is the Insanity in Law which extinguishes Responsibility?

[The Editor has to express his best thanks to the gentleman who conducts the Criminal Law Reports, for the use of his notes of the evidence, and of the Judge's Charge: the latter has been corrected by his Lordship. Our report then, of this important case, may be relied on as correct.]

In the High Court of Justiciary at Edinburgh, on Monday the 23d December last, James Gibson, a weaver, thirty-two years of age, was tried before the Lord Justice-Clerk, (Hope), Lords Moncreiff, and Cockburn, for the crime of *wilful fire-raising*. The prisoner had been indicted for trial at the preceding autumn circuit at Perth, but in consequence of some statements then made, when he was placed at the bar, by the counsel appointed by the Court to take charge of the defence, it was judged proper that the trial should be postponed, in order to afford him an opportunity of completing certain inquiries in regard to the prisoner's state of mind. The indictment now insisted in, set forth, that on the night of the 28th, or morning of the 29th day of April 1844, James Gibson, having conceived previous malice against Guthrie and Hood, manufacturers in Brechin, in consequence of having been discontinued in their employment, or of imagining that their trade as manufacturers was injurious to his interests, did wickedly, wilfully, maliciously, and feloniously set fire to the warehouse or premises, at or near Southesk Street of Brechin, then occupied by the said Guthrie and Hood, and being their property; and that this he did by means of forcing open a window shutter, and opening a window of the warehouse or premises, and applying a light or lighted match, to one or more parcels of yarns and cloth situated within the same; and that the fire, having taken effect, did burn and destroy the premises, or a portion thereof, together with a large quantity of yarns and cloth, forming the stock therein.

To this charge the following special defence was lodged for the prisoner: "The libel is met with a general denial of the prisoner's guilt of the crime charged against him. But in addition, this special plea is urged in his behalf, that at the time the alleged fire-raising occurred, the prisoner was, as he still is,—insane."

With reference to the terms of this defence, the prisoner's counsel, Mr Millar, stated, that on the precedent furnished by the recent case of Sliman, he should not urge the plea of insanity in bar of trial, but should reserve its effect for the jury.

It is not necessary to notice minutely in detail, the evidence which was led in regard to the commission of the offence, or of the facts by which the prisoner was connected with it. The only point of difficulty and interest in the case was the condition of the prisoner's mind at the date of the fire-raising, and his consequent responsibility for the crime thus established against him. The mark on one of the shutters of the manufactory, which had been forced through, corresponded with a pick-axe found in Gibson's house, and missed from a quarry in the neighbourhood. Some footprints on garden ground below the window were identified with the impression of the shoes which he was then wearing. Property to a considerable amount, which had been properly secured, was proved to have been destroyed by fire in the manner, and on the occasion libelled in the indictment.

Mr David Guthrie, junior, one of the partners of the company, stated, towards the end of his examination, that he thought the pannel had an odd blustering manner, but had not seen much of him. The pannel had been some time in their employment.

David Sime, a warper in the manufactory.—Gibson worked at different

times for Guthrie and Hood. The last time was about three or four years ago. In August 1843 he got materials for a web, but never wove it. There was some delay, and he was found fault with for this. I refused to call for the web, being afraid of Gibson. Nothing had passed between us, but I was afraid. I had heard different reports of his being of a revengeful nature, and I acted upon them. The web was recovered. After a long delay one of the workers was sent to the stance to remove it.

(*Cross.*)—Gibson was originally a good workman, and well liked. Money was occasionally advanced to him by the firm for work in hand.

Mr William Duncan, one of the Bailies of Brechin.—On the evening after the fire I went to Gibson's house to bring him to the Town-hall. Mr Gordon, the procurator-fiscal of the burgh, was with me. He told the pannel that he must keep the shoe which he had given him during the day, and that he wished the fellow to it, and had brought another pair for his use. Gibson exclaimed, "You don't mean to criminate me?" I had previously heard that he was of unsound mind. Mr Gordon rather turned the question off. Gibson consented to accompany us to the Town-hall. In the jail I conversed with him, and after we had left him, Mr Gordon was recalled. I was afterwards re-introduced by him into Gibson's cell. Mr Gordon said, "This poor lad has fired the premises, and wishes to disburden his mind." The pannel said that he had done the act by getting in at a back window by means of a pick-axe, and that he had previously attempted to get in without success. He added that the pick was then under his bed, and that he had brought it from a quarry the night before. He said he had used lucifers, which he always carried, and some of which he showed me; and that the cloth would not burn, but that the yarn blazed at once,—when he immediately left the factory across the next garden. The pannel said, that the firing of the premises was a duty which he had to perform, and of which he could not get quit, and that he had been long pressed by parties to do it. He declared that the Guthries had been carrying everything before them, but that he was determined to put them down; that all the landed gentry, and Lady Carnegie in particular, had requested him to do so; and that there was no use in keeping back, for the Queen was lying off in a ship of war ready to blow up the town if it was not done. Gibson said he felt relieved by the confession, and that he thought the town looked much better that day. I rather thought his manner was extravagant. His eye was very unsettled. I did not know the man before.

(*Court.*)—The pannel said all this quite distinctly. He seemed well pleased with his act. He added, that others of the towns-people of his acquaintance were as much against the Guthries as himself, and that the warehouse of the East Mill Company, (which was burned in Nov. 1843,) had been destroyed in the same way. He seemed to have a feeling of discontent. I saw no connection between the act, and the landed gentry. He alluded to the feeling against the Guthries before mentioning that class at all. I did not press him much, as I did not think him in a proper state for examination. I did not think him feigning, but I was previously impressed with the idea that Gibson was insane.

(*Re-examined.*)—I went to the pannel's house, and his mother handed the pick-axe to me from below the bed. Neither the garden nor the pick-axe had been previously mentioned to him.

(*Court.*)—There had been some talk in the town of the other factory having been fired by an incendiary. Gibson named James Stott, a lad, who, I believe, is living, as having fired it. Nothing was done in consequence of this information, though the procurator-fiscal enquired into the matter.

(*Cross.*)—I waited till Gibson went to bed, his braces were taken away by my order, in case he might do himself harm. He asked if I thought he was going to "kick." I said I did not, but that there was no harm in removing everything. On the arrival of the sheriff-substitute, I told him that I did not consider the pannel sane. I never saw him again.

Mr William Gordon, Procurator-fiscal of the burgh of Brechin.—About 4 o'clock on the day after the fire, I went to the pannel for his shoe. He said that he was in bed till between 4 and 5 o'clock in the morning, when he was

awoke by the alarm of fire; that he dressed and went to the fire, where he remained for some time. I had previously looked at the shoes he was wearing, and it struck me they resembled the foot-prints, which I had caused to be measured. I asked for one of them, which he gave with some reluctance. Gibson enquired "Do you suspect me for the burning?" He then became much excited or agitated, and called to his mother for some water. He said he saw us measuring the foot-prints. I left the house in charge of our officer. Of this Gibson was aware.

In the evening I saw him again and conversed with him. When Mr Duncan and I were leaving him, the pannel asked me to remain. He had before said incoherently, that he knew all about this, and that he was appointed by the landed gentry to punish all monopolists. He connected this with the Guthries, very incoherently, adding, that the large monopolists were pocketing the fruits of the poor man's labour. He also spoke of a ship aiding them. I said, he should think well of what he was saying.

On getting a hint to remain, I did so, and the pannel then said he had fired the premises, and wished relief from a confession. He related minutely how he had done the act; that he had long contemplated, and once before attempted it; that on the Sunday evening he had gone for the pick-axe, and had gone to the factory about three o'clock in the morning; that he had forced the shutter, entered, and fired the yarns with a lucifer match in two places; that he had escaped in the same way, and had gone home by a circuitous route. The pannel then wished Bailie Duncan called in; and there was no material deviation in the account which he gave to him, though it was shorter. He said that he was only an instrument in the hands of others; that the matter had hung heavily on his mind; and that he was at ease having done the deed. He said that he was aware he had committed a great offence against the law, and that he might suffer for it; and he declared that if there was to be writing he would not confess the offence. This was on my cautioning him not to make any admission, unless he thought fit. He mentioned other firms as necessary to be put down.

At the time I thought Gibson was labouring under some extraordinary delusion. I did not think him feigning, although in my previous interview, except when he asked for water, he appeared quite cool.

I saw him once again in jail, about a week afterwards. Nothing passed to lead me to form any opinion as to his state of mind.

(*Court.*)—The pannel's delusion was in imagining that the gentry, &c. had conspired for such a purpose. His mind appeared to have been brooding over the Guthries' pocketing the labourers' wages. He said he did not see why the world should be so ordered, as that classes should be distinguished as they were in Brechin,—pointing out the difference between the Guthries and himself. I understood that he had a determination that this should no longer go on, if he could help it. There was no mention of any personal affront from the Guthries. The pannel's tone was certainly subdued in stating this, and was in reply to my question as to what could tempt him to commit the act. I could not connect his statements as to Lady Carnagie, with his subsequent story. His mind seemed to be dwelling upon the denial of wages, as a great moving cause. He spoke quite coolly about it,—stating that there was a combination to put down monopolists, and that the members of it had urged him to the act. I think we were all quiet in the town at that time, but there was a great depression of trade. I believe the pannel stated that he was in distress for loss of work. Lady Carnegie lives within three miles from Brechin.

William Sievwright, Town-officer in Brechin.—I went to Gibson to inquire about a web, on 1st January 1844. He was not very willing to give up the yarn. I said if he did not do so he should be apprehended, but he then and afterwards said that I had nothing to do with it; that the Guthries would not make much of the yarns they had got; that he would be d——d, but he would play them a trick for it. I then understood that the yarns had been recovered.

I had known the pannel for sixteen years. At any rate at first he behaved quite well, for I lived two years under the same roof with him. Latterly I

have seen him prowling about, and drinking. I never heard him say anything daft-like. except when he was apprehended. He then asked what it was for? adding, "I suppose it's about the fire, but if I can't get that fellow down, the Queen has a ship of war off Montrose, with guns that will do it." I understood the reason of his feelings to be that the Guthries had been taking advantage of the working classes in Brechin. This was in the court-room. I saw nothing mad-like on the occasion of my meeting Gibson earlier in the year. He spoke very determinedly, and with an oath. For some time back he has been giving himself up to drink, and not attending to his work.

(*Cross.*)—I have heard several parties calling the pannel "daft Gibson" in conversation. These were young chaps just like himself.

(*Court.*)—I never had any complaint against him, except one for a drunken row, when he refused to pay the reckoning.

George Purves, Weaver in Brechin.—I saw a man whom I took to be Gibson, at the head of the Vennel, going to his own house, about three o'clock in the morning of the fire. The drum was then beating.

William Crofts, Sheriff-officer in Brechin.—I took the pannel to Montrose on the 7th of May. In passing Guthrie's factory he waved his cap and hurrahed; and in passing another, he said that that castle should come down too.

Mr Andrew Robertson, Sheriff-substitute of Forfarshire.—I examined the pannel at Brechin on the 6th May. His first declaration of that date is rather a minute of procedure. I did not feel myself justified in putting questions to the prisoner. It was my first view of him. I was satisfied that he understood my explanations. He had an opportunity of making a statement, for I asked if he had any to make. I was not fully satisfied as to the state of Gibson's mind, partly from his appearance. There was a "*glauceiness*" about his eye. I thought it better to postpone the regular examination. He was quite sober.

[In this document, which was read at a subsequent stage of the trial, along with the other declaration of the prisoner, which is noticed below, it is simply stated, that "he declares that he does not intend to make any statement on the subject" of the fire.]

I committed Gibson to Montrose, instructing Dr Poole, the superintendent of the asylum there, to examine him. On his report I proceeded to examine the prisoner in the Doctor's presence, on the 25th May. I had no doubt that he was then in his sound and sober senses. He seemed fully to understand the usual cautions. On the first occasion I thought there was something peculiar in the prisoner's eye. I saw nothing of this sort on the second. He then conducted himself with perfect address.

[In this declaration the pannel stated, after referring to a previous nocturnal visit to the factory, that he went to bed, without making any noise, about 10 o'clock, on the evening preceding the fire, and continued there till the alarm was given; that he then visited the factory, but did not assist the crowd there; that he gave up his shoes to Mr Gordon in the course of the day; that he had seen a pick-axe in the house, but could not charge his memory with the time when he first observed it, or how it came there; that he did not recollect of mentioning to Mr Gordon, or Bailie Duncan, any thing about the pick-axe, and he further declined to answer the question, when interrogated if he meant to deny his guilt of the fire-raising.]

Mr William Hutchison, Procurator-fiscal of Forfarshire—I was present at both the declarations emitted by the prisoner Gibson. They were freely and voluntarily emitted. He seemed quite collected on both occasions. The second examination lasted some time, and nothing occurred to lead me to doubt the prisoner's sanity.

Dr Richard Poole, Medical Superintendent of the Royal Lunatic Asylum in Montrose.—I have seen something of the pannel. I remember his examination before the sheriff. I then thought him in a fit state for examination. I had visited him in the jail, having been requested to enquire into his state of mind. I saw Gibson several times previous to his being sent to Perth at the last circuit. In this, as in many cases, little information was communicated as to the history of the derangement. I saw the man for a few days, and thought him

rather of weak intellect, and very uninformed, and unintellectual. Subsequently, I got some information as to his previous character, and the events in his history; learning, for one thing, that he had been unfortunate in an engagement to a girl, and that in consequence he had lost his diligent habits, and become very careless. This I heard partly from Mr Black, from the pannel's mother, from Mr Duthie, gaoler at Montrose, and from some medical men in Brechin. I heard, in addition, that Gibson had shown some strange delusions: this was chiefly from the medical men: and that he had exhibited violence to his mother and others, without cause. I was thus enabled to examine the pannel more thoroughly. It was added by Duthie, that his state had varied very much, and that, after calm intervals of days, he showed these delusions. He had then been in Montrose several weeks. I was then convinced that my original opinion was erroneous, and must be modified. I discovered, that on sundry points, Gibson exhibited extreme errors of judgment, misconception, and hallucinations, or delusions, such as I knew to a certainty to be such. He informed me that his progenitors had come from Denmark, and that he could rely on an army of Danes coming to his assistance; that there was to be an uprising to repeal the Union, and that he should command the Danes that were coming over to assist the Scots. I had told the pannel that some medical men thought him insane; but he denied the truth of their opinion. I added, that, if insane, he might be sent to an asylum. He still maintained that the Danes would rescue him. On one or two occasions, he was much excited, speaking most incoherently, extravagantly, and erroneously, and stating that he had been encouraged in the act of fire-raising by Lady Carnegie, Provost Guthrie, and the medical men. He also said that he had been a student at College. On the last occasion of my seeing Gibson, I thought myself in some danger, as from a person under maniacal fury. From all this, I inferred that I had misconceived his case, from want of information. I had been originally informed as to the charge, and spoke to the pannel about it, but he showed no insanity regarding that. I made a report to this effect.

(*Court.*)—I thought these were real delusions.

Dr William Malcolm, Physician in Perth.—I have had charge of the Lunatic Asylum in Perth for some time. I know the pannel, who was brought to Perth for trial. I visited him then; and for some time after the Circuit, with a view to ascertain his state of mind.

On the 1st October, during the Circuit, I visited Gibson. He then talked of the Danish army, and of freeing Scotland from the Union. He wanted to find out whether I was a Crown counsel; but afterwards saw that I was a medical man. On the 2d October, the pannel said he believed the doctors thought him daft, and that that was the reason why his trial was delayed. He declared that he was not daft, that he had lived an irregular life, but that he did not think his mind affected. I said, if he was found to be daft, that he would be confined for life, instead of being punished by a temporary imprisonment, as the penalty for fire-raising. He replied, "I am a responsible person in all my actions, and perfectly capable of distinguishing right from wrong." After this, he read at my request, part of a book as to the necessity for repentance, and remarked that this was applicable to his own case, and he added that the account of the Danish army was a story he had been reading, and was a pack of nonsense, concluding thus, "I am James Gibson, weaver from Brechin, and no more." At my third visit, on the 7th October, the pannel's conversation was similar. The jailer said, "Why can't you look the doctor in the face?" Gibson then got excited, and said he could look any one in the face, and that if he had done anything wrong he might be punished for it. But I saw nothing incoherent even in his anger. He added, "I am brought up in a mean way, and can't behave in genteel society, but can look any man in the face." On the 14th October, Gibson seemed just like any one else. He talked freely of his former industry, but said that from dissipation he had lost his employment, and meant to enlist. My opinion is, that the pannel is *not* an insane man. He has an ill-regulated mind, but can distinguish right and wrong perfectly. I thought his judgment less strong than if he had been better informed and less dissipated.

(*Cross.*)—I did not notice anything peculiar about the pannel's eye, but he did not look me in the face. I don't know that that is peculiar to insane persons. At first he rather avoided my question as to the crime, but afterwards he admitted that he had done it.

(*Court.*)—He seemed to have no doubt that his conduct had been contrary to law.

Dr Robert Christison, Professor of Materia Medica in the University of Edinburgh.—I have seen the pannel three times; on the 6th, 18th, and 21st December. On my first visit I thought his parts were weaker than the average; but that he was not insane. On my second visit I thought him of excitable habit, and subject to hallucination. His conversation was very rambling. He thought there was a combination against him of the people of Brechin, along with the Guthries, to prevent him from getting employment. This is a common delusion, and when present, is usually manifested very strongly. At my third visit the pannel made other statements, not so defined,—as that the army had a claim on him, being the commander-in-chief. On the second occasion, my only question was whether his state was feigned; and on the third, my previous impression, that it was *not* feigned, was confirmed. I thought this on my second visit, because at my first I considered the man weak; and thus I did not think he could feign so perfectly. This would have required a considerable degree of cleverness or cunning. I think in general that the pannel was capable of distinguishing right from wrong. On every occasion he admitted that he had done wrong, and was punishable by law, if he had fired the mill. He adverted to the charge on the occasion of my first visit, when he asked me,—why he was confined? I said it was for fire-raising. Gibson said he supposed that was burning the factory. He told me I had nothing to do with his guilt, and afterwards kept clear of the subject. On the second occasion I was with Dr Simson, and put the same question, "What do you say to the charge?" Gibson hesitated, and then said, "I suppose I must tell all about it?" Dr Simson told him to tell what he had previously said to him, and the pannel then admitted that he had fired the mill, after which he commenced a rambling talk. I asked why he had done so; and he replied, because his constitution and Guthrie's did not agree; adding, that he kept him out of employment, and that all the Brechin people were combining against him. I asked, if he burned the mill in order to punish them?—when he replied, that he had not intended that, but that he knew that Lady Carnegie wanted it burned; that every body knew so; that she was to give him nothing for it; and that she had now put him in jail for it, and was combined with the Brechin people against him. Gibson said that the Brechin people had plagued him on the streets, boys and all, but that he had soon settled the boys. At my third visit I alluded to his insanity. He then denied the fire-raising; when I remarked that he had told me a different story before. He replied, that he did not know how many different ways he had told the story; adding, that they wanted to prove him insane. I asked, "What do you say to that?" and he replied, "It is nonsense; I could not speak to you thus if I were not sane." One of the turnkeys then alluded to the army, when Gibson repeated the story about it and Lady Carnegie. I asked, what would happen if the fire-raising were proved? The pannel then answered quite quickly, "Then they can't punish me, because I am insane." On the last occasion on which I saw Gibson, he showed much excitement of manner. When I visited him, I told him at once that I came to enquire as to his health. I rest more upon his idea of conspiracy against him, than on anything else. He read a little, and summed up a few figures accurately and quickly.

(*Cross.*)—*Interrogated*, "Do you consider the pannel insane?" I consider him excitable, and subject to hallucinations, during the prevalence of which the perception of right and wrong is in some measure suspended.

(*Re-examined.*)—The pannel has no delusions of the senses that I could observe.

(*Court.*)—He appeared quite sincere in his hallucinations.

Interrogated.—"If before a magistrate the pannel had showed dexterity in evading questions likely to bring out his guilt, when under no excitement, would

that affect your opinion of his being of weak parts?" That is a very difficult question—we do observe this quickness. Sliman showed more quickness on the subject of his hallucinations. But what is stated in the question would seem to contradict what I observed. I certainly thought the pannel of weaker parts than the average of men. Delusions as to conspiracy have often stood alone. Occasionally the party avoids the subject of his hallucinations carefully, when he wants to prove himself sane, or to avoid that source of excitement.

[This closed the case for the Crown. In defence the following witnesses were examined for the pannel.]

Dr Douglas, Marykirk, near Brechin.—I was for some time in the Honourable East India Company's Marine service. I left it in 1833, and practised in Brechin till the end of 1841. I know the pannel. In 1833, I had seen him while attending his brother, and was struck with nothing particular regarding him. In 1836, Gibson applied to me for a house, which he got, and he continued my tenant for two and a half years. He furnished it well, but did not reside in it. During the latter part of the period of his occupancy, I noticed a change in his manner. He seemed hasty in his demeanour. This I observed when he spoke to me. He was excited at times,—sometimes stared at me. His conversation at that time was generally connected. Either then, or soon afterwards, Gibson stated to me that he was haunted by devils. At times he started off from my presence, and from the subject he was discussing. He laughed sometimes unnecessarily. About March 1840 I was sent for to bleed him. I found him very much excited, and about to bleed himself. I soothed him. After this the pannel occasionally called at my shop. I observed a gradual increase in his excitability; and his dress became slovenly. His eyes at times were very wild. He generally came to get medicine. My impression was, that Gibson was then bordering on insanity. His manner to his mother was occasionally rather violent. His symptoms appeared to be getting the longer, the stronger.

Alexander Balmain, Turner in Brechin.—I have known Gibson for many years. I remember of his working in Fotheringham's shop some years ago. He was then steady and industrious. I recollect of his calling about that time one Saturday at 4 o'clock, to get me to do some job. I had not time, but he returned twice or thrice about it. I at last went with him to make the pair of stretchers that he wanted. We afterwards went to get ale and a pye. On the way Gibson said that he had delivered Fotheringham's daughter safe and sound to her mother. I understood before, that he intended to marry her; and had taken a house. We went to Mrs Runcie's house, into a room where other parties were. Gibson took one Gordon who was next him under his arm, and said that it was the devil. He was then quite sober. He was turned out at last as quarrelsome. I once found two jets of gas burning one afternoon in Gibson's house. The gas was left burning, as he said, to please the gas company, who had threatened to remove the meter. Gibson was not living in that house: he took it, and furnished it, but never lived in it. Ever since that Saturday night the pannel's appearance has been daft-like, when he came out and in. His eye was sometimes wild. His conversation was wild-like; and it was not very "canny" to meddle with him. He often spoke about the devil, as being willing to fight him. He was at times restless, and would set up a wild-like "roar" in going out. He often laughed loud without any cause. I thought he was not "wise."

Margaret Wallace, the pannel's mother, (cited by the Crown.)—Gibson's father has been dead for some years. I have been in Brechin eighteen years. The pannel was at school, and was at first steady and dutiful to me. I heard he was to be married six or seven years ago to Fotheringham's daughter. The match was broken off. About that time he was troubled, restless, and unhappy. I remember Trinity Muir Market in 1843. Something particular troubled my son after it. He was unsteady at his work, meat, and rest. He sometimes seemed raised or excited, and did not work regularly from that time. He wandered about by night and by day out of the house, and he also walked in the room during the night, and could not rest. I have seen him walk four hours in the night time. At meals there must have been something wrong with him.

I remember once he wanted his breakfast at three o'clock A.M., and when at work he sometimes would not come to dinner, and this irregularity grew worse, when he ceased to work. Once when at supper, my son went three successive times to his bed, and stood on the crown of his head, once after each potato which he was eating. He showed a dislike to me, and once said he would take my life;—that there was a necessity for this. He said that I wished to be his wife, and once that I wanted to take his life. He came home on different occasions very melancholy, apparently famished. Last winter he was away for a long time, and returned in a very "sober" state in the snow time. His feet were torn and swelled. He was not working. At another time he returned in a similar state after another absence. Last winter I was afraid to stop with him, and my rest was broken, so I stopped in the house of William Kyd. On the night before the fire, I heard a noise from my son, after he came home, a few minutes before ten o'clock. He continued the noise for some time, groaning, and moaning, and making a noise with his feet, as if in distress. Kyd refused to accompany me up stairs to see what he was about. I have seen my son gird himself with a belt and a napkin, and tighten his stock, making a noise, after he came in; and I thought he was making this sort of noise that night. In consequence of all this, I applied to David Yule, an elder, who went with me to the minister; but he refused to interfere. I also applied to Mr Scott, one of the managers of the poors' fund, on the day that the fire had taken place. I was advised to ask some assistance for the pannel.

(*Cross.*)—My son was not much given to drinking, but I have seen him intoxicated.

[Mr Millar, the pannel's counsel, here proposed to ask the witness if she had a sister, who was insane for some years. But the Court refused to admit the question, as being incompetent in the law of Scotland. Evidence of this sort seems admissible in England.]

James Stott, a Workman in Brechin.—I know the pannel, we lodged eighteen months together. I noticed that his eyes used to roll in his head, and he could not speak on any subject for a lengthened period, but always went off from it. I have seen him laugh when he had no cause. Gibson, on one occasion, said I was not well, and that he would cure me, and brought medicine to me. I had made no complaint; and was quite well. He complained to the landlady that he could not get sleep for devils, and told her to put them away. I saw the pannel during the spring previous to the fire. He had undergone a remarkable change. He used to be very clean, but was then dirty, and unshaven. He had been before familiar with me, but then tried to pass without speaking. I have seen him crouch to get past. I thought he was daft, and his acquaintances were accustomed to call him so.

William Kyd, Weaver, (cited by the Crown.)—I lived below the pannel and his mother for four years. I heard nothing particular till about a twelvemonth past, when he gave up working, and he could not stop in the same house all night with his mother. I used to see Gibson going about sometimes. He was very restless, and I sometimes heard the noise of his feet in his room. I remember on the night of the fire that his mother asked me to go up, and I did hear a noise then. Macintosh, the superintendant of the poor, came to the house on the Monday and made out a schedule.

Elizabeth Wyllie, or Lawrence, (cited by the Crown.)—I know the pannel, and have lived in the same "land" with him for four years. During the week before the fire I saw him in the Vennel; one of the children pointed out his look. He was like a raised, angry person. He was restless and unsettled, gazing about him. I saw his eye troubled-like. All that week he went about in a raised state. The glass of his windows was broken about that time, while he was in his room alone. I saw him go out afterwards with a switch in his hand for a walk. He seemed then quite unsettled, as usual. When he came back in the evening, his mother charged him with breaking the pane, but he said that a fellow had done it, and that he had thrashed him in the Vennel. I should have seen this, if it had happened.

James Spalding, Weaver.—I know the pannel, who taught me weaving about

ten years ago. He was then quite steady. I have seen him lately walking in his garden in rather a strange manner, quick and slow, and looking downward and upward alternately. On the Sunday evening before the fire, I was out walking with three companions, and saw Gibson on a road leading from the public road, about 250 yards off. I don't think that he saw me. He was boxing as against the wall for a little time. I went forward. Gibson had come up to the road, and had a fierce appearance. His eye was very ferocious-like, and he was very dirty. I was alarmed and thought it was wrong in the authorities to let him go at large. I thought the man insane. I called him to my companions "daft Gibson," his usual name.

(*Court.*)—The pannel has been idle, but not dissipated, to my knowledge. I did not see him going drunk about the streets.

Daniel Macintosh, Superintendant of the Poor in Brechin, (cited by the Crown.)—I recollect Mr Scott speaking to me on the 29th April, about the pannel Gibson. (Witness was then shown the book of the Committee of Managers, in order to prove that a certificate of the pannel's insanity had been granted in consequence of this application to him,—but the Court decided that any steps taken after the fire, with this view, were of no consequence, and in the absence of Mr Scott, who might have been called to state the information communicated to him, the examination was stopped.)

Dr Mackie of Brechin.—I have known the pannel since 1838. I saw him frequently in my shop in 1842-3-4, to purchase medicine for himself. I observed a peculiar restlessness in his manner and in his eye. He was very abrupt in his conduct. I had no lengthened conversations with Gibson. It struck me that he was labouring under some mental affection. On the day after the fire I visited Gibson at desire of Macintosh. I saw the pannel, and wrote out a certificate of his insanity. I had last seen him during the winter or spring. From what I had seen and saw, I was satisfied that he was of unsound mind. Gibson was at tea between five and six o'clock, when I called on the day of the fire; he seemed surprised at my visit, but soon became composed. I asked him many indifferent questions. He said he slept ill, from strange notions that were occasionally in his head. I mentioned the fire, without knowing that he was accused or suspected of having caused it. He said it was a dreadful business. He told me he was unable to work, and he seemed particularly restless, rising up and sitting down. His eye was very suspicious.

(*Court.*)—Gibson's mother was in the house; neither of them told me that his shoe had been taken away on suspicion. She mentioned her having been excluded from her own house. I don't think she called her son mad, but I understood that to be her opinion.

James Duthie, Keeper of the Prison at Montrose, (cited by the Crown.)—The pannel was with me from the 7th May to the 26th September, and from 26th October to the 22d November, when he was removed to Edinburgh. I sometimes considered his manner peculiar. He would be very quiet, and again would make many manœuvres, tying his legs with strings, &c. He would drop his work, and stare for a long time at the wall, when he was unconscious of my observation. I never conversed with him about his crime. My impression was sometimes that he was not altogether right, but at other times I could not say so.

(*Cross.*)—I saw nothing remarkable about Gibson, when his declaration was taken.

John M'Pherson, a Prisoner in the Prison of Edinburgh.—I have been confined in the same cell with Gibson. For the first few days I thought him very solitary. On a Sunday he took a spoon and hung it on the gas light, and said, he knew the "airts" to which the different rivers run. He rubbed the soles of his feet with soap, saying they were sore. I told him it was like a daft man to do so. On another Sunday he took the cords of his hammock, and asked me to assist him in lashing them round him; and threatened to kill me. He stood with his face to the wall for two hours, with the lashings on, and stated that he had pains, and required bandages. His hands were quite black with the tightness of the ligature. He would stand in a corner for two consecutive days

with his cap over his eyes. I conversed very little with Gibson. There was another put into the same cell with us. I complained of Gibson being in it, as he might give us a blow without our being aware of it.

Dr James Laing of Brechin, (cited by the Crown.)—I was asked to visit Gibson on the 30th April. Dr Guthrie and I visited him thrice, and reported that he was sane. We visited him once again in Brechin, and once in Montrose. At my last visit I thought the pannel insane. He seemed under delusions, and his manner was altered. His delusion related to the fire-raising. He said he wished to plead guilty to it, but added that he had been urged on by Lady Carnegie and the town of Brechin. I asked if he had any ill-will at the Guthries. He said he had none, but was urged on, and he thought the fire was no great crime, as no lives were lost. I asked Gibson if he did the act calmly, and he answered he did; that he got a pick-axe and waited for night; and that he felt easier after he understood that he had succeeded; that the Queen, the Army and Navy, and the American nation knew of the deed; that he was connected with great people through his father, and descended from the king of Denmark. In Montrose, Gibson's look was very characteristic of insanity.

(*Cross.*)—I was present at the pannel's first examination in Brechin. My impression was that he could distinguish right from wrong. He admitted that his crime was punishable by law, but said, it was no great affair, as no lives were lost.

(*Court.*)—I have had such experience of insane patients, as a long practice gives. I saw Dr Poole before and after seeing the pannel at Montrose. Dr Poole had not then made up his mind as to the man's sanity. I noticed a change in Gibson's appearance from what it was at Brechin. By conversing with him for a long time, I became convinced that his delusions were real. He mentioned nothing as to any conspiracy against him, either at Brechin or at Montrose.

Dr James Simson, Surgeon to the Prison of Edinburgh, aad President of the Royal College of Surgeons.—I have visited the pannel eight or ten times. I think him a man of weak intellect, and restless in his habits, and apt to take up erroneous ideas of things, and act as if they were right. Such a man is very dangerous, and insane to that extent. I asked Gibson about the fire-raising. He said that his reason for the act was that the people of Brechin and Lady Carnegie wished it. He laboured under a variety of delusions. He wished to burn the house, so as to see how fire acted.

Dr Cormack, Physician, Lecturer on Medical Jurisprudence, and Editor of the London and Edinburgh Monthly Journal of Medical Science.—I visited pannel three times last week; formed no decided opinion at first. My impression was in favour of his insanity. Mr Millar, prisoner's counsel, was with me on the first occasion. My second visit confirmed this impression. I then talked on a great variety of subjects, avoiding those on which the prisoner had formerly conversed, or on which I understood he had been examined. On some subjects the prisoner's views were tolerably consistent; on others he indicated some degree of incoherence; and seemed as if he had hallucinations, or acted on false perceptions from believing in unreal impressions made on the senses. He had what appeared to be delusions as to the cause of committing the crime. He said that he thought it was the will of his Maker that he should commit it; and that the people of Brechin were aware of this, and kept out of his way, that they might not be witnesses against him. At the age of thirty-four he was to get the command of the army. On the third, as on the former occasions, I noticed that the pupil was very contracted; and that there was a restlessness in the eye. His whole demeanour and conversation impressed me strongly with the opinion of his insanity.

(*Cross.*)—One hallucination was, that he was subjected to galvanic shocks. He said that he had once been knocked down on the road between Brechin and Montrose by electricity, drawn from the equator by a Brechin doctor. I asked how he had heard of galvanism? He said at the time of his being knocked down he did not know it, but he afterwards attended a lecture on it in Brechin,

got a shock, and recognized the means of annoyance. Supposing this was a real hallucination, it accounted to me for some of his former statements.

(*Court.*)—Pannel said he could not well explain how it was the will of his Maker, but knew that it was. He did not insist on his being an instrument of God. I did not inquire whether he considered the act a crime; but he said the French were ruining the town, and the Guthries were leagued with them. He seemed clearly to understand the position of Mr Millar, his counsel. He knew the day of his approaching trial. I incidentally came upon the topic of insanity as a defence. He said that some of the Brechin doctors wanted to make him out mad, but that his whole life disproved it; that he never was excited except when drunk. He said he had been intemperate. I could not say that he had such an appearance. He rather looked like one in bad health.

Dr Ferguson, Surgeon to the Prison at Montrose.—I visited the pannel repeatedly during six months. My impression was that he was decidedly insane—generally insane. On different occasions his manner and general appearance indicated that his mind was wandering. His conduct was also excited, and sometimes furious. When alone, I at times thought myself in danger. Gibson had generally delusions, and said he was driven on to crime.

Mr Neaves, Advocate-Depute, addressed the Jury for the Crown.—With regard to the prisoner's insanity, there were two questions before the Jury. Was the prisoner insane to any extent? If he was,—was his insanity such as rendered him irresponsible for his act? It was a serious matter to prove any man insane; and the evidence adduced fell far short of what was required for such a purpose by the law. Glimpses only of Gibson's history previous to the fire-raising had been given; and any eccentricities of conduct these showed could be accounted for by the dissipated habits into which he had fallen. The fire-raising was the act of a depraved, and not of an unsound mind. Guthrie & Hood had taken work out of the prisoner's hands; and revenge had thus dictated the crime. He had threatened vengeance at the time; and he fulfilled his threat.

But granting, for argument's sake, that Gibson was so far insane, his insanity was not of that degree which relieved him from accountability for his actions. The law on this point was clear. Before it admitted irresponsibility, it required a total deprivation of the knowledge of right and wrong,—at least, with reference to the special act done. But Gibson possessed this knowledge, as was established both by the stealthy manner in which he committed the crime, and by the evidence of the witnesses who had conversed with him on the subject. Even the medical witnesses who thought him insane, declared that he knew not only right from wrong generally, but that he knew the very fire-raising for which he was brought to trial, was an offence against the law for which he might be punished. Mr Neaves concluded by asking for a verdict of *guilty as libelled.*

Mr Millar followed for the Prisoner.—The plea of insanity, he stated, was one which no prisoner who might receive a lower sentence than that of death had an interest to urge; because, supposing it successful, it was followed by confinement of a far more serious nature than that which sentence on a verdict of guilty would impose. This should remove any prejudice that might exist against the honesty of such a plea in this case.

Insanity, when proved to exist, was admitted by the law of every country to excuse from the culpability of crime. But what was that insanity? Without attempting a definition, all which was asked for the defence was, that the Jury should include under that term others besides those who are either idiots, or furious persons. Long ago these classes were thought to comprehend all entitled by law to the character of insane; but medical science in modern times had shown this view to be erroneous. It was now established that there might co-exist with insanity a considerable, or even a high, degree of intelligence on particular topics, as well as calmness and propriety of behaviour.

In determining whether a person was insane, it was important to attend to the symptoms by which medical men were wont to distinguish that state of mind; and the counsel read from Ray's *Treatise on the Medical Jurisprudence of Insanity*, the translation of a passage from one of Georget's works, in which

these are detailed. He then turned to the evidence adduced, and submitted that it proved Gibson, before the fire-raising, to have manifested most of the symptoms on which medical men rely. His whole character and appearance had undergone a change. From being industrious, he became idle; and from being cleanly in his person and dress, he became dirty and uncouth. His feelings towards others also became perverted; he suspected those he before had loved, and even his mother he threatened to kill, because he fancied she was to take his life. His manner too became restless and absurd; his conversation was wandering and unconnected; he both laughed and was moody without a cause, and his eye—whose appearance no feigning could influence—had at times the glare of mania. All these symptoms were noticed before the fire-raising; and they impressed those who saw them, with the idea that Gibson was insane. Were they not sufficient to lead the Jury to the same opinion?

But if insane at any time, it was shown that Gibson was insane when the crime was committed. The evening preceding, he was seen boxing a stone wall with his fists; and the very day of the fire, a certificate declaring him of unsound mind, was prepared by a medical man, with a view to his confinement in an asylum.

Even, therefore, if there had not been the evidence of skilled persons to refer to, there was sufficient evidence of another kind to warrant the Jury in finding Gibson insane. But the Jury had such opinions, the opinions of men eminent as medical jurists, to assist them, and these, with one exception, were in favour of the prisoner's insanity.

But it was said the prisoner might be insane in some points, and yet be responsible for the particular act of which he was accused. The Jury, however, should hesitate before they made this distinction. It was a delicate task to parcel out the intellect,—to say what was sound and what was unsound. The safer course was to hold that as there was insanity, there should be irresponsibility. But even admitting the distinction, did the evidence not show that with regard to the fire-raising, the prisoner was the victim of a delusion? Granting he knew while committing it, that the law might punish him for his act, he ought not to be held amenable, because in what he did he was no voluntary agent,—he believed himself an instrument in the power of others, and had no alternative but the execution of their purpose. Finally, there was no adequate motive assigned for the crime. This was important, as it forced us to have recourse to the prisoner's insanity for an explanation of his conduct. Mr Millar concluded by asking a verdict, finding Gibson to have been *insane at the time of the fire-raising.*

Charge of the Lord Justice-Clerk to the Jury.

The defence for the pannel in this case is, that the act was committed when he was insane—not responsible to law, except in so far that the law must take care that he shall have no farther opportunity of doing injury. In regard to his commission of the crime, no doubt has been raised as to his perfect capacity to make the coherent statements of his own guilt, so many of which are in evidence. The facts as to the finding of the pick-axe with which the window-shutter was forced through in the place indicated by the panel, and the identification of the foot-prints, which he admitted to be his own, are sufficient to exclude the idea that his confession was made under an insane delusion.

In considering the defence of insanity, the first observation to be made is that it is a defence of which the burden of proof lies wholly on the accused. He must make out the existence of insanity *such as the law requires.* On this point I quote the words of the Judges of England, in their answers to the questions of law recently propounded to them by the House of Lords. Their opinion expresses the law of Scotland, as well as of England, upon the matter. —"The Jury ought to be told in all cases, that every man is to be presumed to be sane, and to possess a sufficient degree of reason to be responsible for his crimes, until the contrary be proved to their satisfaction; and that to establish a defence on the ground of insanity, it must be clearly proved that at the time

of the commission of the act, the party accused was labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act he was doing; or if he did know it, that he did not know he was doing what was wrong." It is not sufficient that the pannel's evidence should *raise doubts* as to his sanity. He must *establish* as matter of fact the insanity urged to exempt him from punishment, by evidence which brings complete conviction to the minds of the Jury; and this holds the more strongly as to a person who had never been treated as a madman, or found uttering any strange speeches, till after the act with which he is charged. Hence in this case, it is not enough unless the pannel can prove on the evidence that he is a violent madman, who must be shut up for the remainder of his life.

The next observation to be made is on the question, *What is the insanity according to law, which exempts from punishment?* This insanity must be total. To use the words of our great institutional authority, it must be absolute,—"the disorder must amount to an absolute alienation of reason." (Vol. i. p. 37.) These are the expressions of Baron Hume. True, the man may be acute and cunning, and converse coherently and ably on many points, and be able to conduct himself with propriety: but still his *reason* must be entirely destroyed: he must be devoid of reason, which can guide his actions. This is the state of the law—the individual must be bereft of reason—there must be an absolute destruction of reason. You are not to consider insanity according to the definition of medical men, especially such fantastic and shadowy definitions as are to be found in Ray, whose work was quoted by the counsel for the pannel, and in many other medical works on the subject. We are not to make law but to administer it; and whether medical writers, differing as widely from each other, as they do from the law, approve of the law on the subject or not, the insanity to be proved must be that which the law holds to be the insanity which exempts men from punishment. The man must believe, not that the crime is wrong in the abstract, (for most madmen do admit murder to be wrong, and punishable in the abstract,) but that *the particular act* committed under the influence of the motive which seems to have prompted it, was not an offence against the law. One may know, that in the abstract, the act is punishable, and yet believe that his particular act is not in law a crime, and not punishable; and then will arise the question for the Jury on the evidence, if the delusion really went to that extreme length that he thought the particular act was not only praiseworthy in itself (for that is not by any means sufficient), but not a crime against the law, for which he could be punished. Thus, in murder, the actor may have supposed insanely that his victim was going to take his life; and if the particular act be proved to have been committed in the particular circumstances from that delusion, so that he insanely believed he was doing what the law permitted, he may be held in law to be irresponsible for murder, difficult as such a case will always be. And further, you must see that the nature of the act may be of great importance in judging whether the man knew it to be punishable by law; and also the way and manner in which he sets about committing the act, as proving the perfect consciousness that he might be punished, and the desire to escape detection and punishment.

The third, and perhaps the most important of any direction which I have to give you is, that the question, whether insanity, such as I have stated, is proved, is a question for the Jury themselves to decide, upon their own view of the sufficiency of the whole evidence. This duty is not to be delegated to medical men. The opinion of such witnesses alone must not be taken as conclusive, if not satisfactory to the Jury. The Jury must bring their own common sense knowledge of mankind, and estimate of the truth, to bear upon the opinions that medical men may give, with the aid of the direction that the Court may afford as to the view of the law. In this case, the only value of the evidence as to the pannel's mind *after* the commission of the act is, as it bears upon his sanity *at the date of the act.* To the charge now before you, it is no defence to say, that the pannel is *now* insane. You are not concerned with this question at all, except in so far as the evidence as to his present state may.

tend to prove that he was insane when the act was done. Insanity has not been pleaded *in bar of trial*,—hence his present insanity is not the question you have to try. The Crown may afterwards, in the exercise of its prerogative, consider his present state, if he be convicted, with a view to more lenient treatment, or mitigated punishment. But you are to say whether it is proved that he was insane at the time he committed the act with which he is charged.

The issue then to be tried is insanity, not as defined in medical books, or by medical men. Views are often taken of it by such, which the law rejects; and their evidence in proof of insanity often contains a statement of the very facts which the law assumes to establish that the individual is not insane in the view of the law, and is not exempted from punishment. Mr Ray denounces the law of Scotland, of England, and of America; and if I recollect right, he approves of the directions of one Judge only, who held that the Jury should exercise no discretion at all, but should take the opinions of the doctors alone as conclusive. A favourite theory of such writers, is, that Juries are eminently unfit to decide such questions—that they are apt to think and judge (most fortunately as they are bound to do) for themselves,—that it is a difficult medical question, and should be disposed of by some other tribunal than a Jury. Fortunately, the law takes a different view of the subject, for anything more varying, or inconsistent, or unsatisfactory, than the definitions of insanity given by Ray and many other medical writers cannot be conceived; all such notions must be judged of, first, by the law in regard to insanity; and, secondly, by the common sense of the Jury; and, if insufficient to satisfy the law on the one hand, or if in the particular case, they turn out to be unsatisfactory on the whole facts to the Jury, then they must be laid aside as not safe grounds for judgment. A medical witness may give his opinion decidedly in favour of the insanity—total or partial, and very possibly the accused may be insane according to his peculiar view of insanity, but, if he states that the man is insane because of certain delusions in the mind, which in his view render him insane, I have to give you two directions in judging of such testimony. *First*, the law does not recognise partial insanity in the ordinary sense of the term; and, *secondly*, if it appears according to the evidence of the medical witnesses, or from other evidence in the cause, that the pannel, in reference to the particular act with which he was charged, and the motives which are thought (on the notion of insanity) to have prompted its commission, still well knew that he was punishable for his act, because it was an offence against the law, that is enough to negative insanity according to the rules of law.

What then is the law regarding delusions, which are said to constitute insanity? Here a preliminary objection will occur, whether these delusions were real or feigned—that is purely a Jury question. The opinion of the medical witnesses rests on *their* belief that they are real; but that opinion is to be judged of by you, and judged of not only on the grounds on which the medical witnesses rest their opinion, but also on the whole evidence in the case before you, who are to say for yourselves whether the delusions are real or feigned. And you are in an infinitely better condition to judge of that than any of the medical witnesses, as I think the testimony of Drs Poole and Christison will amply illustrate, when I come to remark on it; but the more important inquiry is—supposing the accused really to be labouring under delusions, whether they are such as in law, or according to sound principles of religion, with which the law is in precise conformity, will exempt him from responsibility for his acts. Thus, in the present case, it is said that the pannel entertained delusions as to the company whose factory he burned, imagining that they drew too large a remuneration for their capital, and did not give to the labourers a proper share of the profits on the capital, and that this was an insane delusion, from the violence and incoherence of the way in which it was stated. Now upon this point the English judges, whose view coincides with what has always been our own law, declare, in answer to the first question submitted to them, "Assuming your Lordships' inquiries are confined to those persons who labour under such partial delusions only, and are not in other respects insane, we are of opinion that, notwithstanding the party accused did the act

complained of with a view, and under the influence of insane delusion, of redressing or revenging some supposed grievance or injury, or of producing some public benefit, he is nevertheless punishable, according to the nature of the crime committed, if he knew at the time of committing such crime that he was acting contrary to law,—by which expression we understand your Lordships to mean the law of the land." No such principle is recognised in law, as that a man allowing a fancy or morbid feeling to get possession of his mind and temper, although it disturbs reason, while it does not overthrow it, will escape punishment, because, instead of resisting the temptations of such ill-regulated, morbid, distempered, and ungovernable feelings and passions and prejudices, (whether called delusions or not,) he gives way to them, and indulges in their gratification and satisfaction. This is the view, too, taken by the soundest on these subjects of all medical writers—Dr Abercrombie,—in whose works the notion that a man giving way to the suggestions of his own evil heart and revengeful nature—to the suggestions of the tempter—is insane and irresponsible merely on account of the extent to which he has indulged the angry and evil passions which have occupied his mind, or of the power and strength and mastery which they may have acquired over him, from long brooding over the subjects of them, is nowhere countenanced. The view of such cases taken by the law is the doctrine of the Bible—the man *chooses* to commit the act: he *gives way* to the suggestions and temptations which are strong, only because he has long indulged in such thoughts. Rely upon it, he was not tempted above what he was able to bear. If there was not an absolute alienation of reason, the law holds he can resist and must resist the suggestions to commit an act, which would be against the law.

The fourth question of law proposed to the English Judges was this :—" If a person under an insane delusion as to existing facts commits an offence in consequence thereof, is he thereby excused ?" And the answer which they returned, with the exception of one Judge, whose opinion went still farther, was as follows :—" The answer must of course depend on the nature of the delusion, but making the same assumption as we did before, namely, that he labours under such partial delusion only, and is not in other respects insane, we think he must be considered in the same situation as to responsibility, as if the facts with respect to which the delusion exists were real; for example, if under the influence of his delusion he supposes another man to be in the act of attempting to take away his life, and he kills that man, as he supposes, in self-defence, he would be exempt from punishment. If his defence was, that the deceased had inflicted a serious injury to his character and fortune, and he killed him in revenge, he would be liable to punishment." This paragraph is equally applicable to the law at either end of the island; in this we have never had any difficulty,—and it is on these principles that you ought to try this case. Any other view would be against sound reason and common sense, would be adverse to the whole doctrine of man's responsibility,—open up a door for endless and extravagant speculations, and be fraught with mischief to society, the consequences of which no man could calculate, for it would give impunity to the strongest and worst temptations with which man is assailed.

It has been argued, that it is a strong ingredient in the proof of insanity, that no adequate motive is assigned for the commission of the offence, such as you would expect to find, and that such is the case here. But in many cases in questions of insanity, this would be a most hazardous and alarming test by which to determine the responsibility of man. It is impossible for rightly constituted minds to estimate how much a man may have brooded over his own fancied wrongs, or to understand the sway which the indulgence of revenge or of any evil passion may obtain over the mind. In some cases, the motive in its character may seem to indicate, and may afford proof of insanity, but that is a very different matter indeed from the plea that there is no adequate motive to account for a man committing the act here charged. Why, that would hold equally as to every man in the town of Brechin. A purpose of revenge,—a desire to triumph over individuals or over a class of men cannot be understood by you to be motives by which man can be influenced. But it would be a fatal

error, as your own common sense and experience will tell you, to infer insanity from what is termed the inadequacy of the motive. In the inquiry whether a particular man committed the offence, that consideration may be of great weight —of very little when the inquiry is whether the man who did it, is insane.

But supposing the delusion to be of importance to the case, and sufficient in law to secure impunity from crime, the question to which I have alluded still remains in this case, and a most important inquiry it is,—Was the individual *feigning* insanity? Were his delusions real, supposing they amounted to insanity if real? Here you begin this inquiry with a very singular fact, one I should suppose nearly unexampled, on the theory that the delusions were real, and which will probably assist you very materially in disposing of this question. No one of the delusions, supposed to exist in the pannel's mind, and to exhibit themselves after the act of crime, appear ever to have been alluded to by him before it, or ever to have been detected in moments when the witnesses, who speak to his state of mind at that period, believed him to be under some excitement.

This, according to the line of defence, is not a case in which the supposed insanity broke out at once in the act of violence in question. It is said that he was insane for months, nay years before; and yet not one of all the witnesses examined ever heard of any one of the delusions said to be in his mind from the time he was committed to jail, or indeed of any delusions whatever. Again, you find that in Edinburgh jail, he showed the delusion that there was a great conspiracy against himself,—a totally new and different delusion from any exhibited before. Yet Dr Christison stated that such a delusion, when real, takes a very strong hold of the mind, and that the common delusions as to conspiracies are usually the predominant subjects of thought, and of most constant manifestation.

On the whole subject, then, you as a Jury are entitled to exercise your own judgment,—and rely upon it, the decision at which you arrive, will be nearer the truth than that of any body of medical witnesses.

Suppose the delusions as to the oppressive encroachments of the Hoods as spoken to by Sievright to be real, that does not amount to insanity in law.

The delusions spoken to by Dr Douglas had no reference to the act itself, or to the delusions spoken to as existing after it; nor do they amount to insanity, especially when taken in connection with the change in the moral habits of the pannel, which change, from an industrious, well-behaved workman, to an idle character, given to drink and irregularities, will probably explain to you all that the Brechin witnesses state.

Even in the mother's evidence there is no trace of the delusions supposed to exist after the act, and nothing amounting to insanity in law.

You find the ordinary conduct of a criminal at first in denying the charge; and it is only after the proof is known to be strong that anything about insanity or delusion is brought out at all. The statement made to Gordon (p. 142) is sufficient to exclude the plea of insanity as required by law.

Dr Poole's evidence gives ample proof of the superiority of the Jury's position over that of medical men, in judging of insanity. At first, and after many opportunities of observation he thought the pannel sane; but then he got a great deal of information about him, which he detailed, and on which he came to alter his opinion. Now, he was putting himself into your place, without possessing your advantages. Many of the facts upon which he proceeded to form his judgment, have not been proved to-day to be true, although we have had the witnesses who must have known them. Others, again, were greatly exaggerated to Dr Poole, and turned out to be utterly insignificant. As to the disappointment in love, which Dr Poole thought was of great value in judging whether he was sane or insane, even the pannel's mother does not seem to attach more than temporary unhappiness to her son's match being broken off six or seven years ago. No medical man has spoken before you to any stranger delusions manifested previous to Dr Poole's examination, such as he says he had been informed had existed; and yet you have had all the medical men whom Dr Poole referred to. But the delusions which he mentions, even if real, do not

amount to insanity in law, as the person knew all the time that his act was punishable by law.

As to Dr Christison's evidence, I think it is another proof of the advantage a Jury has, in forming their opinion, over medical witnesses. He believed the delusions to be real, and not feigned, for he thought the pannel's intellect to be greatly weaker than that of the average of persons in his rank of life; and hence, that he could not carry on so rapidly as he did the rambling, incoherent, and extravagant talk in which the delusions were supposed to be manifested, except under the influence of insane excitement. In short, he was too weak-minded a man to feign. Now, if you are satisfied on all the evidence,—on the evidence of Mr Robertson, the Sheriff-substitute, and of Dr Malcolm,—that the pannel is not a weak-minded, or ill-informed man, or incapable of expressing himself readily and well on a variety of topics;—if you are satisfied that Dr Christison greatly overrates the supposed weakness of mind, or was wholly mistaken as to it, then the grounds of his conviction, as to the reality of the pannel's delusion, is altogether taken away.

The descriptions of Dr Cormack, and of Dr Simson, do not amount to insanity in law.

If you are satisfied of the accuracy of Dr Malcolm's observations, then they would be very conclusive. He resorted to an expedient to make the pannel believe that it was not his real interest to feign insanity, and he tells you, that the pannel, accordingly, in all subsequent interviews, laid aside wholly the pretence, and conversed most rationally. He read us the conversation, and his expressions, from his note-book; and Dr Malcolm was satisfied that the man was quite sane.

The Jury unanimously found the pannel GUILTY AS LIBELLED; and in respect of their verdict he was sentenced to transportation for fourteen years.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION XXIV.

FIRST MEETING.—*Wed. Nov.* 6, 1844. Dr HAMILTON, V.P., in the Chair.

ON A NEW METHOD OF TREATING FUNGUS OF THE TESTICLE. BY PROFESSOR SYME.—This paper was published, with an illustrative plate, at page 1 of our January number.

CASE OF A FEEBLE, ILL-FED, DIRTY, OLD WOMAN, IN WHOM A HORN GREW FROM THE SKIN, OVER THE INNER ASPECT OF THE TIBIA, ABOUT ITS MIDDLE. BY DR TURNER OF KEITH. (COMMUNICATED BY DR CORMACK.) This paper will appear in an early number of this Journal.

ARSENIC IN ASCITES; AND ON THE METHOD OF ADMINISTERING THIS MEDICINE. BY DR CORMACK.—The author believes that when ascites depends upon hepatic or splenic congestion, much benefit will be obtained from the administration of small doses of arsenic. He recommended that the dose should not

at first exceed the 16th or 20th part of a grain; that this should be taken in not less than four ounces of water, and with an empty stomach. The dose should be repeated four or six times—not seldomer—in twenty-four hours. In skin diseases, intermittent fevers, enlarged spleen from intermittent fever, and, indeed, in every case in which arsenic is known to have specific effects, Dr C. recommended that it should be given in the method above mentioned; and advised that all other drugs should, if at all possible, be suspended during its administration. In old cases of enlarged spleen and liver, the cure will be hastened by the use of a succession of blisters. [Some of the cases to which Dr C. referred, will be afterwards published in this Journal.]

PLACE OF MEETING.—The thanks of the Society were, on the motion of Professor Syme, seconded by Dr Gairdner, unanimously voted to the Royal College of Physicians, for the kind and liberal manner in which they had granted the request of the Society, that its meetings should be held in its Hall, during the present session. The Society is to meet, till farther notice, in the temporary Hall of the Physicians, 119 George Street.

SECOND MEETING.—*Wed., Dec.* 4, 1844. DR HAMILTON, V.P., in the Chair.

ADDRESS FROM THE CHAIR.—*Dr Hamilton*, before the ordinary business began, made some very suitable remarks upon various topics which he said would "naturally and forcibly present themselves to the mind of every member of the Society then present." The subjects to which he principally adverted were, the distressing and protracted indisposition of their excellent and zealous President, Professor Graham; the sudden demise of one of their most illustrious members, Dr Abercrombie; and, lastly, the great additional comfort with which the Society were assembled in the Hall of the Physicians, as compared with their former over-crowded place of meeting, in 13 Queen Street.

ON THE SPONTANEOUS EXPULSION AND ARTIFICIAL EXTRACTION OF THE PLACENTA BEFORE THE CHILD, IN PLACENTAL PRESENTATION. BY PROFESSOR SIMPSON.—Professor Simpson gave a communication on the expulsion and extraction of the placenta before the child, in cases of unavoidable hemorrhage. He showed, that in common cases of presentation of the placenta, when managed according to the rules generally followed under the circumstances, the mortality among the mothers was very great. Out of 174 cases, tabulated from different authors, by Dr Churchill, this complication had proved fatal to 48 mothers; and a more extensive table of 339, drawn up by Dr S. himself, presented a mortality of 115 mothers:—or, one out of every three died.

In contrast with these statistics, Dr S. brought forward a number of cases, (some previously recorded, and others collected from private sources,) in which the placenta had come away before the infant, either expelled by the natural efforts alone, or in consequence, in several instances, of the reputed bad management of the accoucheur. The number of cases collected was 120 in all. Out of these only eight mothers died, or one in fifteen. In two of these, the cause of death was not stated by the reporter; in three the patient perished from puerperal fever; and two only were alleged to have died from hemorrhage. In one of these two last cases, the hemorrhage ceased, as soon as the placenta was separated, but too late to save the woman.

The same cases also show that, though much blood may have been escaping *before* the placenta comes away, yet as soon as the separation is *complete*, the hemorrhage usually ceases, or becomes very trifling. A complete separation of the placenta is thus proved to be far less dangerous than a partial one,—a fact that at first may appear somewhat paradoxical, but which is readily explained by the structure of the fœtal placenta. The hemorrhage comes chiefly from the placenta itself. When it is only partially separated from the uterus, the blood enters freely by the adherent portions, and escapes as freely from the surface of the portion of placenta that is detached.

From a consideration of these facts, Dr S. was led, four years ago, to pro-

pose to the Obstetrical Society,—whether in cases of hemorrhage from placental presentations, we should not sometimes adopt the practice of extracting the placenta, in order to arrest unavoidable hemorrhage, leaving the fœtus to be expelled by the natural efforts of the uterus, or otherwise. Dr S. stated he had adopted this procedure, in one case, in autumn last, with perfect success, the placenta having been extracted two hours before the birth of the child. This method, he thought, would be found particularly applicable to those sets of cases in which turning or rupture of the membrane is inexpedient or impracticable; as, in cases where hemorrhage occurs to an alarming extent, while the os uteri is still small and rigid; in unavoidable hemorrhage in first labours; in placental presentations, when the patient's strength is already so sunk, from the flooding, as not to allow, without danger, of immediate turning or forcing delivery; in cases where the child is known to be dead; &c. &c.

On the late Dr Abercrombie. By Dr Adam Hunter.—The author prefaced his communication by some eloquent eulogistic remarks upon the character of the deceased.

He read the notes which he had preserved of the illness with which Dr Abercrombie had been affected in November 1841, from which he was disposed to infer, that neither the symptoms of that attack, nor the condition of the brain as ascertained after death, justified the extreme measures which were pursued to arrest the progress of cerebral disease, of the existence of which Dr A., at the time of his seizure, entertained no doubt. The author read a report of the appearances found on dissection, drawn up by Mr John Goodsir, from which it appears that our account published in the number for December 1844, p. 1057, is correct and complete. [Those who wish to consult Dr Hunter's interesting paper will find it, (with Mr John Goodsir's report embodied), in the January number of our contemporary, the *Edinburgh Medical and Surgical Journal.*]

Dr Hamilton and others expressed themselves as strongly impressed with the fact, that for some time after Dr Abercrombie's first attack, distinct traces of partial paralysis were to be seen,—dragging, in fact, of one limb in walking.

Mr John Goodsir mentioned some of the particulars of the dissection made by Mr Melvin, of a female patient of a gentleman who he regretted was not present. The case—which terminated fatally, since the death of Dr Abercrombie—presented a lesion of the heart similar to that discovered in his. The previous symptoms were not serious. Death took place suddenly, in the presence of the medical attendant, at the very time that the patient was in the midst of a description of some slight ailments. [The case has been received for publication in this Journal.]

Dr Cormack said that he did not regard the case of Dr Abercrombie as unique; but as belonging to a class which had been well described by morbid anatomists. The heart disease under which that eminent man had laboured, was softening of the muscular fibre; the dark red spots noticed in the substance of the left ventricle, were the traces of former sanguineous effusions, consequent probably on the division of vessels by the tearing of some fibres. This disease —the effusion of blood among the fibres of the heart—has been well described and depicted by Cruveilhier, (*Liv. xxii. Pl.* 3.) under the appropriate name of *apoplexy of the heart*, and by others under that of *red softening*. Dr Abercrombie's death was determined by the hemorrhage being—not as in his former attack, or attacks,—slight, and into the substance of the heart; but copious, comparatively, and into the pericardium. The chain of morbid changes which had gone on in the heart, as consequences of each other, were pretty obvious, viz. disease of the vessels—imperfect nutrition—softening—rupture of fibres—hemorrhage into the substances of the heart—and at last, the giving way of some of the external fibres of the left ventricle, and, as the result of this, the effusion of blood into the pericardium, from the branches of coronary arteries and veins ruptured in the course of the tear. The immediate cause of death was the hinderance to the heart's contractions, from the pressure upon its external surface by the blood poured out into the pericardium.

ELECTION OF OFFICE-BEARERS.—The following gentlemen were chosen.—PRESIDENT, John Gairdner, M.D.—VICE-PRESIDENTS, W. Brown, Esq.; Robert Hamilton, M.D.; and W. Beilby, M.D.—COUNCILLORS, S. A. Pagan, M.D.; W. Seller, M.D.; Sir William Newbigging; John Brown, M.D.; Robert Spittal, M.D.; Graham Weir, M.D.; James Syme, Esq.; and Robert Christison, M.D.—TREASURER, Robert Omond, M.D.—SECRETARIES, Douglas Maclagan, M.D.; and James Duncan, M.D.

NEW MEMBERS.—The following gentlemen were elected,—*Dr James Marr*, and *Mr W. S. Carmichael*, Surgeon.

THIRD MEETING.—*Wed., January* 8, 1845.—DR GAIRDNER, P. in the Chair.

PRESIDENT'S ADDRESS ON HIS ELECTION.—*Dr Gairdner* expressed his thanks for the honour of being invited to become President of the Society, an honour conferred, as it always had been, in a free and spontaneous manner. There were few distinctions which could afford him an equal degree of gratification; for the chair of this Society had been held by men of the highest eminence in medical science, by such men as Kellie, Abercrombie, Thomson, and many others, whose writings are held in the greatest repute wherever medicine is scientifically cultivated. But he valued it not merely as a high professional distinction, but as a proof of the regard of his brethren and associates in this Society; for he knew of no profession whose good opinion was better worth having; all its studies, and all its pursuits having a highly improving tendency, intellectual and moral; the former being intimately associated with all other studies; and the latter, consisting in perpetually doing good, and therefore presenting the strongest inducements to the cultivation of humanity, benevolence, and every moral quality which should render men valuable members of society. And those tendencies of the profession, he conceived, will be principally conspicuous in those who, instead of engaging in it in a spirit of apathy, or of engrossing and sordid selfishness, are impressed with a deep sense of its real importance to the interests of humanity, and determined, so far as they can, to increase the powers of medical science over the ills that flesh is heir to. Such being the sole end and object of this Society, he conceived that the awards of such a body of men were entitled to the highest possible respect.

The Society had now entered on its 24th session, in circumstances calling for the most strenuous exertions; when the public are beginning to discover that the education of the guardians of their health is not to them a matter of indifference. Some time ago they made the notable discovery that it was better that the human body should be scientifically anatomised after death, than that it should be subjected to unscientific operations during life; and that the supplying of the needful materials should therefore cease to be branded as a crime, and to be committed, as it formerly was, to the worst characters in the whole country. We had now ruminated, like a wise and thinking people, for 15 or 16 years, on this first step in the thorny path of medical legislation, and are now, it is said, ready for another. We have now discovered, it seems, that having given to our medical men opportunities of acquiring a solid education, it may be just as well to remove all obstacles from the way of those who may avail themselves of those opportunities. It is said that we are no longer to prefer the licentiate of an English clergyman to the licentiate of a College of Physicians or Surgeons; that we are no longer to prefer one well educated medical man to another on capricious grounds, such as that the one was educated in the south, and the other in the north, of what is reputed to be a united kingdom; and that we are no longer to subject the whole profession, or any considerable sections of it, to conditions inconsistent with the feelings of gentlemen and men of a liberal education, by placing them in the predicament of being forced to accept of their professional remuneration in the somewhat degrading capacity of mere sellers of drugs and manufacturers of pills. From the remarkable harmony and union of the most opposite political parties on this subject, he antici-

pated that the fetters were likely to be soon knocked off from the profession, and that medical men of competent education, and medical institutions of adequate pretensions, will soon be placed on a footing of equality, whether they belong to England, Scotland, or Ireland. In this prospect, the medical men of Edinburgh have an important part to perform in order to preserve the *prestige* of this city, as an emporium of medical education. The medical school never was in a higher state of efficiency, and the Society may, in one point of view, be considered as an institution subsidiary to the medical school. He trusted that all those members who might have original matter to communicate, would make the Society the medium of its communication to the world; and he felt confident that if this were done, the present session would be as distinguished by zeal, energy, talent, and sustained interest, as he rejoiced to say, had been several past sessions of the Society.

Statement by Professor Simpson regarding his Proposal to Extract the Placenta before the Child in Placental Presentations.—After the minutes of the previous sederunt were read, Dr Simpson rose and said, that in bringing forward at the last meeting of the Society the facts which he had then stated, to show the propriety of extracting the placenta before the child, as the proper method of treatment in some instances of unavoidable hemorrhage, he thought the plan he had suggested was so far original, and he was induced to bring it before the members under this conviction. Since they had last met, however,—that is within the last month,—the same plan had been published as a new and original one in two different Medical Journals. He alluded to the subject in order to assure the Society that he had not intruded upon them, as novel and his own, a plan of treatment which they might thus deem to belong to others. On the other hand, though in neither of the publications adverted to, was there any acknowledgment of him whatever, or of his originating these views, yet some months ago he had had occasion fully to describe his ideas and proposal on the subject to each of the writers of these two articles, —(a fact which some gentlemen present could corroborate, if necessary, in regard to one of them in particular)—and they appeared to be received as new at that time, by both of the two authors. The special method of treatment which he had brought forward had been discussed yearly ever since he was elected to the Chair of Midwifery in the University,—was well known to most of his Obstetric brethren in Edinburgh,—and had been in 1841 formally brought by him before the Obstetric Society. He was sorry to be obliged to state these points in his own behalf on such a subject, but he had been advised that silence upon the matter would be highly unjust, both as regarded himself, and as regarded the Society.

The President suggested that the statement made by Professor Simpson was of such a nature, that it ought to be entered in the minutes. This was unanimously agreed to; and the Secretary was instructed accordingly.

On Certain Cases of Functional Disorders of the Heart which are apt to be confounded with Hypertrophy. By Professor Christison.—This paper will be found at p. 81 of the present number.

Professor Alison could testify to the accuracy of the description which Dr Christison had given of this class of heart affections, the true nature of which was often mistaken. He believed that the disorder depended upon a peculiar formation of the heart—on a smallness of the organ. The symptoms could be greatly palliated, or almost removed; but from the persistence of the cause they would be always apt to recur. Morgagni pointed out many of the symptoms caused by abnormal smallness of the heart.

Dr Bennett remarked, that from the statements of Dr Christison it appeared that the excessive palpitations in his cases could not be mistaken for that occurring in anœmia.

Dr Maclagan had listened with much attention and interest to the valuable communication made by Dr Christison, as it described so well a case similar to those mentioned in it, which was now under his (Dr Maclagan's) care, and had

for some years been watched carefully both by himself and his son, (Dr Douglas Maclagan). The gentleman had been much improved by tonic treatment, and in particular by the use of the carbonate of iron. Practitioners could not be too much on their guard against bleeding in such cases.

Dr Cormack detailed the leading particulars of a case which he believed to be quite similar to those mentioned in Dr Christison's paper. The patient—a gentleman about 30,—had been seen by Dr Alison, and the late Dr Abercrombie, as well as by Dr C. The treatment recommended by all, and followed with the best possible result, was the making the patient at ease as to his complaint, and the administration of the carbonate of iron. The speedy removal of much physical and mental suffering was very striking.

POPLITEAL ANEURISM CURED BY PRESSURE. BY JAMES ALLAN, M.D., OF THE ROYAL HOSPITAL, HASLAR. COMMUNICATED BY DR PAGAN.—Several members expressed themselves as much interested and pleased by the detail of Dr Allan's successful case. [We observe that it has been published in *The Lancet* for January 18, 1845. We will give an abstract of it in an early number.]

NEW MEMBERS.—The following gentlemen were duly elected members of the Society:—*Drs Martin Barry, Mackellar, Richard Mackenzie, and W. Mackenzie, jun.*

FOURTH MEETING.—*Wed., Jan.* 22, 1845. DR GAIRDNER, P., in the Chair.

CASE OF POISONING WITH CORROSIVE SUBLIMATE. BY JAMES ANDREW, M.D., F.R.S.E.—This case will be found at page 102 of this number.

CASE OF AVULSION OF THE LEFT ARM AND SCAPULA:—RECOVERY OF THE PATIENT: WITH REMARKS. BY ALEXANDER KING, M.D.—This case will be found at page 96 of this number.

The President congratulated the Society on having had this interesting case laid before them by one of the office-bearers of the sister Society in Glasgow. As the sessions of the two Societies were held at different periods, reciprocity of communications might often be convenient and useful.

Dr Maclagan adverted to analogous cases of injury, which occurred on the field of battle.

Dr Spittal thought that the fact of the slightness of the shock, and the goodness of the recovery, in cases such as those described by Dr King, suggested, that when the surgeon was "preparing" his patient for an operation, he might sometimes be preparing him to feel its effects more severely.

Dr Duncan, in adverting to Dr Spittal's remark, alluded to several cases of avulsion which had come under his own observation; and stated that the primary, as well as the secondary effects of such injuries, were often very different from those which had been described in Dr King's case.

Dr Cowan alluded to a case which occurred at Dalkeith, seven or eight years ago, in which one upper extremity was torn away. The boy did well: but the remarkable point in the case was, that for a long time, after complete restoration to health, he was unable to walk, from *inability to balance himself.*

Dr Watson doubted whether the slight hemorrhage in this class of cases could depend on the formation of a clot, as this took (according to experiments which he had performed) seven days to form in a deligated artery.

Dr Douglas Maclagan stated that a considerable number of years ago, when assistant to the late Professor Turner, he had aided that surgeon in performing many experiments upon the effects of dragging out arteries forcibly, till they gave way. The same result was observed, both in dead human bodies, and on living animals, viz. the cone-like prolongation of the tube, the shaping of it into the form of a pencil pointed for writing. The prolonged outer coat formed the apex of the cone:—the inner coat was retracted within, and pro-

jecting into the canal. These experiments showed, that in cases of avulsion, the artery was in a specially favourable state for being plugged up: from the state of the inner coat, a very little only was required to complete the obstruction.

On the Formation of Bone by the Periosteum. By Dr Watson.—The author stated that he had examined minutely the periosteum in one case of acute necrosis, and two of fracture, in which he had found that the new bone had been formed in the substance of the membrane, independently of the old bone. In illustration of this subject, Dr W. exhibited several preparations from the cases, some of which were shown under the microscope.

Fistulous Opening in the Stomach.—*Dr Watson* communicated the case of a young woman, the patient of a friend of his, in the country, who had an opening in the stomach externally. She had suffered severe dyspeptic symptoms for two years; and three months ago, this opening suddenly took place during violent exertion in washing—when a large quantity of water which she had swallowed to relieve pain, was ejected from this opening. The opening has been gradually closing, and she now seems to be getting well.

New Members.—The following gentlemen were duly elected:—*Dr Keith; Dr Lowe; Dr W. Ord M'Kenzie, King's Dragoon Guards; Mr Robertson, Surgeon, Cramond; Mr Bowman, Surgeon; Mr Van Someren, Surgeon; and Dr Keiller.*

ACCOUNT OF MISS MARTINEAU'S REPUTED CURE, BY THE MESMERIC QUACKERY.

[We were about to make some remarks on Miss Martineau's case, which has made so much noise of late, when we received the following letter from a friend on the subject, which we have much pleasure in laying before our readers.]

My dear Sir,—I send you back, according to promise, Mr Greenhow's report of Miss H. Martineau's case, which I think a most valuable publication, as tending to disperse the delusive character which the unfortunate, and much-to-be-pitied lady has endeavoured to cast around her state. Her malady, for it still exists, is one which must excite the compassion of every feeling heart; and it is deeply to be deplored, that the mental feelings which such diseases excite in their unhappy victims, should be considered for a moment the outpourings of a philosophic mind, and as evidence upon a physiologic question. Had I any acquaintance with Mr Greenhow, who is evidently a well-informed medical man, and a man of very high principle, I should request him, from his own showing, out of regard for a lady who has filled no mean space in the public estimation, to urge her to listen to the voice of *healthy* reason, and not to suffer the fancies of her mind, disordered by her infirmity, to ruin her reputation with those whose unmedically-educated judgments will not allow them to understand the cause of her mistaken notions.

How stands the case? Poor Miss Martineau has a uterine disease, which began in her thirty-seventh year—a disease of the fibrous-tubercular-polypoid kind—what Sir C. M. Clarke, in his lectures, called fleshy tubercle. This disease, though not confined to single women, is more prevalent with them than with married females. I believe, I recollect well my honoured teacher, Sir C. M. Clarke, stating, that it was a disease which would sometimes advance to a great extent, and then without any assignable reason gradually disappear. The polypous excrescence is one feature occasionally found with the malady. As the disease advanced, the uterus became dislocated, retroversion took place, and symptoms from mechanical pressure supervened. This was about the period of *one month only* after the first announcement to Mr Greenhow.

In 1841, Sir C. M. Clarke saw Miss M., and stated, what he used to teach in

his lectures, that *such diseases sometimes subsided.* In 1843, either from the use of iodide of iron, or by some restorative effort of nature, the symptoms had begun to lessen in severity; and in 1844, *(April)*, Mr Greenhow was "enabled to detect a slight change in the condition of the uterus—the attachment of the fundus was less fixed, and it could be slightly raised from its position." In fact, it was beginning to return to its ordinary size. She had about that time an attack of indigestion, which "*had subsided,* when, on June 22d, the mesmeric treatment was commenced."

In September, Miss M. was again examined, when the fundus uteri admitted "of being *raised to some extent.*" In April it could only be "*slightly raised;*" and at this time, September, the catamenia had "resumed their natural course." From this time to December 6, Miss M. continued rapidly to improve, and then the fundus uteri was found "more disengaged than at the last examination," and Mr G. observes, "it is certainly *less fixed,* and in this respect has improved at each time of examination since April 2, when the first degree of improvement was observed."

Now to base upon this case a mighty argument in favour of mesmerism, is surely as wild a fancy as ever entered the mind of man or woman. The poor invalid may be pardoned her impressions. We of the medical profession well know, that uterine diseases exercise a powerful influence over the female mind, from the whims and conceits of boarding-school misses, to the raging madness of furor uterinus. Nor will Miss Martineau's admitted talents be allowed by medical men as an exception from the peculiarities of her sex generally; for the ablest authors, and most learned men, have been found as ready dupes of quackery as the humblest peasants, perhaps even more susceptible,—from quicker imagination,—of being imposed upon.

But see the plain and intelligent account of Mr Greenhow, than which a better could not be desired.

It would seem that the disease had been advancing undiscovered till about *June* 1839. How long it had existed is not known, though for a year previously she had suffered "great failure of nerve and spirits, and of strength." The probability is, that the uterus had been gradually enlarging; but it was not till it became so large as to press upon adjacent parts, that the lady's notice was particularly called to it. In less than a month after this the viscus became retroverted. Then came symptoms of great distress, which continued till Sir C. M. Clarke saw her in 1841, and, happily for the cause of truth and the frustration of error, mentioned the possibility of the subsidence of the disease.

In 1843 the first gleams of the happy fulfilment of this scientific opinion appeared.

In April 1844 "a slight change in the condition of the uterus" had taken place; and it became "*less fixed,*" and could be "slightly raised from its position."

In June mesmerism was first tried.

In September the disease is found still decreasing.

In December the progress is discovered to be much greater towards recovery. When the curative process has not only been predicted, without reference to Mesmerism, but has actually commenced, in steps the *art* of Mesmerism; it finds the disease dead or dying, and nature restoring the viscus to its healthy state, and it cries out triumphantly, "see what *I* have done!" Why, this is as truly absurd as was Sir John Falstaff's boast of having killed the "gun-powder Percy."

The strange imaginations and the bewildered delight of Miss M. upon the amelioration of her symptoms, a medical man can well forgive,—he understands the source, and complexion of such feelings. But what indulgence can he extend to parties who, not labouring under the mental excitement of the patient, strive to turn the restorative operations of nature to the support of fancies opposed to common sense and observation, and to the general laws of our animal system? To such no consideration should be shown. It would be a wide field to enter upon the history of Mesmerism,—to show its follies and its tricks,—the present object is to prove that with Miss M.'s improved state it has

had nothing whatever to do,—and though Mr Greenhow may, from the accidental "dropping in" of Mesmerism in this case, have his mind directed to its peculiarities, every sensible medical man must see, that *he* cannot connect it with Miss M.'s case in any way.

Indeed, Mr Greenhow concludes his "Report" by saying, "in the history of this case it is probable that the advocates of Mesmerism will find reasons and arguments in support of their opinions. But the experienced practitioner, carefully distinguishing the *post hoc* from the *propter hoc*, will have little difficulty in bringing the whole into harmony with the well-established laws of human physiology."—Believe me to be, my dear Sir, yours faithfully,

W. R. D.

THE ODD-FELLOW SURGEONS OF GLASGOW.

A meeting of the Medical Profession of Glasgow, called by circulars, and advertisements in the local newspapers, was held on the 11th December 1844, in the Assembly Rooms, Glasgow, to take into consideration the best means of protecting the dignity and interests of the Profession, from the encroachments of Oddfellow, Druid, Forester, Gardener, and other similar Societies. The assemblage was not numerous, and consisted chiefly of the junior members of the profession, whose interests are more immediately influenced by the operations of these Societies. William Lyon, Esq., was called to the chair, and explained, in a clear and perspicuous manner, the injury which the Profession as a body sustained, by some of its members connecting themselves with such objectionable associations.

The Meeting agreed to prepare an Address, in reference to the subject. In conformity with this resolution, a second meeting was held, on the 9th of January, M. Graeme, Esq., in the chair, when a long Address, in which the whole subject is fully discussed, was unanimously adopted. The Address has been extensively published, both in a separate form, and in the newspapers, and we fondly hope that it may have the effect of inducing both the professional and non-professional Odd-fellows to reflect early and deliberately on the subject; and we think they will easily discern selfish, as well as more noble reasons for abrogating the unnatural connection which at present subsists between them.

In an article, in our August number, "On the State of the Poor in Scotland," the subject of Odd-fellow surgeons was incidentally alluded to, and our sentiments regarding them briefly expressed. In again reverting to it, we assure our brethren, that we are actuated solely by the wish to remove a stain from the character of our common profession. Let us assure them, in all kindness and sincerity, that they may yet live to repent the step they have taken, for low as the fees for medical attendance at present are, their doings are directly calculated to sink them still lower. Let the bad feeling which, we are told, at present exists between the movers in this matter and the Odd-fellow surgeons completely subside—let them meet on terms of professional good-fellowship,—and then we confidently hope a satisfactory understanding between all parties will be completed, and the interests of the hard-worked and ill-requited practitioners of medicine cease to be invaded.

MONUMENT OF JAMES BORTHWICK.

The terrible conflagration of Sunday the 19th January, which destroyed the ancient edifice of the Greyfriars' Churches, Edinburgh, has left uninjured, we are happy to learn, many interesting monuments, and among others, that of James Borthwick, who had the merit of accomplishing the disjunction in Edinburgh of the surgeons from their fellow-craftsmen, the barbers. The following is the inscription on his curiously cut tomb-stone:—

"Memoriæ Patris Sui Jacobi Borthwick, A Stow, Familias De Cruixtoun, Filii Legitimi Pharmacopæi Celeberrimi J. B. Primogenitus, M. Mq. P."

ADVICE TO MEDICAL STUDENTS.

The "Leading Medical Journal"[1] has published what it terms an ALMANACK, which,—as the following extracts prove,—indicates that same high toned morality, and classic elegance, which characterised its *truthful* sketches of Abercrombie, Syme, and others.

"*January.*—First session pupils receive turkeys from their friends in the country, which getting known, twenty students call at their lodgings the same day, to know when they (the turkeys) will be cooked. Barrels for oyster-shells are now forwarded to the resident apothecary at the hospital; and two *gastrocnemii* muscles, with the *tendo Achillis* cut short, are packed in small fish baskets, and sent to the house surgeon as a pair of soles; accompanied by a *jejunum* stuffed with dirty saw-dust, and tied round at certain intervals with a ligature of silk to resemble sausages."

"*February.*—Pupils anticipating their examination at the end of the course, get deuced funky, and rush wildly about from the hospital to the grinders, and *vice versa*, enquiring of every one they meet, the equivalent of protoxide of nitrogen, the botanical name of chick-weed, and the course of the lymphatic duct; whilst men who mean to have a cut in for the prizes disappear altogether —it is presumed for the purpose of copying out their notes in little, that they may smug from them, when locked up in the examination room. Sovereigns are now spoken of as legendary coins; half-crowns appear at rare intervals; and it takes three students, on an average, to raise a pot of half-and-half, which one manages to drink."

"*May.*—Literal *breaking up* for the first session of the stools and trestles in the dissecting-room. Now take out your watches, and put up your scalpels and abdominal hooks against the winter. Register your past attendance upon lectures at the hall; and if any one of the professors has been obstinately insane enough to refuse signing your schedule, do it yourself. In case of extreme pecuniary distress, recollect that Alexandre, of Great Russel Street, gives the best price for bones and preparations. New men occasionally make such things, and you should keep your eye upon wherever they hang them up to dry."

The details regarding medical schools, &c., need not be accurate for the *flash men*, for whom the "Leading Medical Journalist" seems to write; and it is therefore got up with a view to the greatest possible *inaccuracy*. We are, for example, told that Dr Thompson lectures in the Extra-Academical School of Edinburgh, on Anatomy and Physiology. No such person lectures, or ever did lecture on Anatomy, in Edinburgh. We are also told that Dr Shortt—long since in his grave—is a Physician to the Royal Infirmary, and a Lecturer in "Queen's College," which also has ceased to exist, and which never claimed the deceased as a professor. Equally extraordinary information is given regarding Dr Fyfe, Dr Moir, Dr Balfour, Dr Spittal, &c. In the information (?) given regarding Edinburgh, there are more blunders than lines. But the statements may be quite true enough for those for whom they are intended.

LIFE IN LONDON.

We copy this from the *Medical Gazette*.

"DANCING OVER THE DEAD.—We have been long familiar with the 'Dance of Death,' but never knew that dancing over the dead had been practised in a civilised land, until our attention was pointed to the fact by a printed paper of Mr Walker, the unwearied assailant of the grave-yard nuisance in crowded towns.

"It appears that on the western side of Clement's Lane, Strand, is situate a building called Enon Chapel, surrounded on all sides by houses, crowded with inhabitants, principally of the poorer class. The upper part of this edifice was opened for the purposes of public worship, about 1823. It is separated

[1] The "MEDICAL TIMES" so styles itself!!

from the lower part by a boarded floor; this was used as a burying-place, and crammed at one end even to the top of the ceiling with dead. It is estimated that within this space, not exceeding 1700 square feet, from ten to twelve thousand corpses have been deposited during the period of sixteen years. The chapel has been latterly converted into what is called a Temperance Hall, in which plain and fancy dress balls are held; an efficient band is engaged, and quadrilles, waltzes, reels, &c., are danced over the masses of mortality in the charnel-house beneath.'

What a picture! The capitalist speculating in the charnel-house and chapel, and finding it not a "paying concern," converts it into the "saloon" and dancing room. Morals, religion, feelings, dead, and living, are all buried in the one grave. Could this occur in any part of the world except London?—*Dublin Medical Press*, January 15, 1845.

BOOKS RECEIVED.

(Continued from page 80 of the January Number.)

22. A Treatise on Poisons, in relation to Medical Jurisprudence, Physiology, and the Practice of Physic. By Robert Christison, M.D., F.R.S.E., Professor of Materia Medica in the University of Edinburgh, &c. &c. *Fourth Edition.* 8vo, pp. 986. Edinburgh, 1845.

Dr Christison has brought up every part of his treatise to the present state of science—a task of no ordinary difficulty and importance, considering how much has of late been done in Toxicology. We propose to notice this great work at some length in an early number; but we may state in the mean time, for the information of our readers, that it is much enlarged, and that some whole chapters—that on arsenic, for example—have been entirely recast.

23. Outlines of Chemistry; for the use of Students. By William Gregory, M.D., Professor of Chemistry in the University of Edinburgh. *With numerous engravings on wood.* Part I., Inorganic Chemistry. 12mo, pp. 236. London, 1845.

As a text-book for the student attending lectures, nothing can surpass this little work. It is comprehensive, clear, concise, and cheap. The tact displayed by the author in giving within so narrow a compass the present state of inorganic chemistry, is quite wonderful. When Part II., Inorganic Chemistry, appears, we intend briefly to review the work.

23. The Philosophy of the Moving Powers of the Blood. By G. Calvert Holland, M.D., Physician Extraordinary to the Sheffield General Infirmary. 8vo, pp. 308. London, 1844.

25. Medical Report of the Case of Miss H—— M——. By T. M. Greenhow, Fellow of the Royal College of Surgeons of England; Senior Surgeon to the Newcastle-upon-Tyne Infirmary, &c. 8vo, pp. 24. London, 1845.

Noticed at p. 163 of this number.

26. Retrospect of Practical Medicine and Surgery. Edited by W. Braithwaite. Vol. X. July—December 1844. 12mo, pp. 300. London, 1845.

27. Reflexions et Observations sur le Traitement des Rétrécissements de l'Urétre. Par Le Docteur G. Bénique. 8vo, pp. 67. Paris, 1845.

28. Contributions to the Diagnosis and Pathology of Thoracic Diseases. By Robert L. MacDonnell, Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons, Ireland. 8vo, pp. 27. Dublin, 1845.

29. Galvanism, applied to the Treatment of Uterine Hemorrhage. By Thomas Radford, M.D. 8vo. pp. , 1844. [*Reprinted from Provincial Med. Journal.*

30. Cerebral Development of Justus Liebig; with Remarks. By William Gregory, M.D., F.R.S.E., Professor of Chemistry in the University of Edinburgh. 8vo, pp. 7. [From the *Phrenological Journal* for January 1845.]

31. Cases and Observations illustrating the History and Pathological Relations of two kinds of Hydatids, hitherto undescribed. By Dr John

Gairdner and Dr Thomas Lee; with Microscopical Observations, by Mr H. Goodsir. [From the *Edinburgh Med. and Surg. Journal*, No. 161.]

32. Fifth Annual Report of the Crichton Royal Institution for Lunatics. 8vo, pp. 35. Dumfries, 11th November 1844.

33. An Address read to the Harveian Society. By E. Murphy, A.M., M.D. 8vo, pp. 15. Dublin, 1844.

34. Remarks on the Mortality of Exeter; together with Suggestions towards the improvement of the Public Health; being a letter addressed to Henry Hooper, Esq., the Right Worshipful the Mayor of Exeter. By Thomas Shapter, M.D., Physician to the Dispensary. 8vo, pp. 32. London, 1844.

TO READERS AND CORRESPONDENTS.

In addition to the ORIGINAL ARTICLES announced in our last,—some only of which we have been able, from want of room, to insert in our present number,—the following will appear:—

DR ADAMS.—Case of Abscess, communicating with a Blood-vessel in the Neck.

PROFESSOR JOHN REID.—Case of Monstrosity by Inclusion; with a plate.

MR SPENCE.—Cases of Hernia; with Remarks.

DR WILLIAM WEIR.—On Osteosarcoma.

From the above, and the list published in our January number, it will be seen, that of the numerous Communications offered to us, we have engaged to publish twelve. Our Periscope and Review departments must not suffer from these obligations. WE THEREFORE MOST EARNESTLY INTREAT OUR FRIENDS, THAT IN WRITING FOR OUR PAGES THEY STUDY CONCISENESS. As a necessary consequence of the increasing popularity of THE MONTHLY JOURNAL as a medium for Original Communications, the difficulty of getting up the other portions of the work have greatly augmented; and indeed, at this moment, there is so much valuable Periscope in type, that we fear it will be impossible for us to print more than one-half of the announced Original Articles in the March Number.

LETTERS, BOOKS, AND PARCELS FOR THE EDITOR, must be sent *free*, with the word "*Journal*" written on the corner, to DR CORMACK, 131 Princes Street, Edinburgh, either direct, or through the Publishers.

ERRATA IN LAST VOLUME.

The following errors in Dr Davidson's article, in our December number, ought to be corrected.

Page 1001, *for* "œdynamic," *read* "adynamic."
„ 1004, *for* "readily," *read* "rarely."
„ 1005, *for* "desirable to apply," *read* "a desirable method of applying."

UNIVERSITY OF ST ANDREWS' ADVERTISEMENT—*continued.*

4th, That the Senatus firmly believe that their medical graduates, since the present system of examination was introduced in 1826, will bear a comparison in point of professional knowledge with those of any other academical body in the United Kingdom. Their regulations secure the object of the Candidates having enjoyed a regular medical education in respectable medical schools; and their stringent examination establishes, that every successful Candidate must have duly benefited by that education. Farther, a large proportion of their Candidates have had an advantage of which those of some academical bodies cannot boast, viz., a very considerable *practical* knowledge of their profession. The Senatus therefore feel satisfied, that their ancient academical privilege is exercised with at least as much advantage to the public at large as that of any other institution in the United Kingdom.

5th, That, with the view of giving the utmost publicity to their refutation of the calumnies referred to, the Senatus direct these Resolutions to be printed and extensively circulated, along wtih copies of their graduation regulations, throughout the United Kingdom; and further, that the Resolutions be inserted in some of the leading public priints.

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In One Volume Annually.

EDITED BY

JOHN ROSE CORMACK, M.D. EDIN., F.R.S.E.

PHYSICIAN TO THE ROYAL INFIRMARY OF EDINBURGH, AND LECTURER ON FORENSIC MEDICINE.

NO. LI.—MARCH 1845.

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Fig. 1.

Presentation of right arm, and cord, in the case described in the Lecture.

Fig. 2.

Diagram shewing projection of foot against the contracted Uterus, in the common mode of turning.

PLATE ILLUSTRATIVE OF Dr SIMPSON'S CLINICAL LECTURES. No 1.

F. Schenck, Lith. Edin.

Fig. 1.

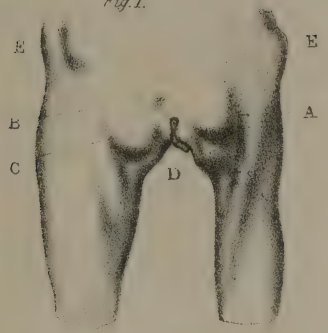

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

ILLUSTRATIONS OF DR LIETCH'S CASES. Vide p. 108.

F. Schmidt Lith. Edin.

THE

LONDON AND EDINBURGH

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Memoir on the Spontaneous Expulsion and Artificial Extraction of the Placenta before the Child in Placental Presentations.*[1] Part I. *By* JAMES Y. SIMPSON, M.D. Edin., F.R.S.E., *Professor of Midwifery in the University of Edinburgh.*

SECTION I.—DANGERS OF PLACENTAL PRESENTATIONS—OPINIONS OF AUTHORS—STATISTICAL EVIDENCE OF THE FATALITY OF THESE PRESENTATIONS.

ALL obstetric authors seem to agree on this point, that there is no one complication in midwifery attended with more anxiety to the practitioner, and few, if any, with more real danger to the patient, than cases of unavoidable hemorrhage from presentation of the placenta.[2]

"Placental presentations," says Dr F. Ramsbotham, "are always fraught with extreme peril."[3] "The attachment of the placenta," observes Dr Collins,[4] "to the mouth of the womb, is one of the most dangerous complications to be met with in mid-

[1] The substance of the following memoir was, on the 4th December 1844, laid before the Medico-Chirurgical Society of Edinburgh. Since that time a number of additional cases have been incorporated into the essay, and the deductions altered in a corresponding degree.

[2] "During the last months of gestation, and at the commencement of labour, patients," observes Dr Churchill, "are exposed to *two* forms of hemorrhage, differing in their causes, but depending upon the *situation* of the placenta. The first has been called 'accidental hemorrhage,' because it arises from a partial and accidental separation of the placenta, which occupies its *usual* situation; and the second is justly termed 'unavoidable hemorrhage,' because the placenta being placed partially or wholly over the os uteri, the dilatation of this will *unavoidably* separate the after-birth, and give rise to hemorrhage."—*Theory and Practice of Midwifery*, p. 383. Our investigations in the present memoir refer to the last of these two forms of uterine hemorrhage.

[3] Obstetric Medicine and Surgery, 2d edition, p. 391.

[4] Practical Observations on Midwifery, p. 90.

wifery." "There are few dangers," to quote the words of Dr Edward Rigby,[1] "connected with the practice of midwifery, which are more deservedly dreaded, and which are wont to come more unexpectedly, both to the patient as well as to the practitioner, than that species of hemorrhage which occurs in cases where the placenta is implanted, either centrally or partially, over the os uteri." "It is," says Dr Dewees,[2] "confessed on all hands, that no accident attendant on conception is equally menacing, as unavoidable hemorrhage; and it also emphatically declares to the physician, that much depends on him, that it shall not be very often fatal. It is one," he adds, "of those extraordinary cases, in which nature does less for the preservation of the individual than in almost any other." "That form of hemorrhage," remarks Madame Lachapelle,[3] "which depends upon the implantation of the placenta upon the internal orifice of the uterus, is one of the most dangerous accidents to which pregnant women are exposed." "It is perhaps," long ago observed Deleurye,[4] "of all labours, that in which the mother and the child run the greatest danger." Still earlier, La Motte states,[5] that "amongst all the accidents of child-birth, there is not any one more perilous *(il n'y en a point un plus perileux)* than that in which the after-birth presents before the child."

The actual results of practice fully bear out the observations which I have selected from the preceding authors upon the danger of unavoidable hemorrhage from placental presentation. My friend Dr Churchill, in his late excellent work upon the *Theory and Practice of Midwifery*, has collected in it from different sources the records of 174 cases of this complication. Amongst these 174 cases, 48 proved fatal to the mothers; or nearly one in every three of them died. I have attempted to make a still more extensive analysis of recorded cases of placenta prævia, or placental presentation, and the consequences of this complication, as bearing on the life of the mother. The following table shows the results of this inquiry:—

TABLE OF MATERNAL MORTALITY IN PLACENTAL PRESENTATIONS.

Reporters.	No. of Cases.	Mothers Lost.
Mauriceau,[6]	17	3
Giffard,[7]	24	7
Smellie,[8]	17	3
Carry forward,	58	13

[1] System of Midwifery, p. 248.
[2] Ibid. p. 390.
[3] Pratique des Accouchemens, tom. iv., p. 362.
[4] Traité des Accouchemens, p. 368.
[5] Traité Complet des Accouchemens, p. 404.
[6] Observations sur la Grossesse et les Accouchemens, vol. ii., pp. 8, 48, &c. &c.; and Edinburgh Medical and Surgical Journal, vol. li., pp. 383–4.
[7] Cases in Midwifery, pp. 22, 36, 38, 52, 87, &c. &c.
[8] Collection of Cases, &c., vol. ii. pp. 307–315; and vol. iii., pp. 141–178. I have, with Dr Churchill and others, here and in a subsequent table, marked all those cases of

Reporters.	No. of Cases.	Mothers Lost.
Brought forward,	58	13
Rigby,[1]	42	12
Clarke[2] and Collins,[3]	15	3
Busch,[4]	13	2
Schweighauser,[5]	64	16
Lachapelle,[6]	16	10
J. Ramsbotham,[7]	19	8
F. Ramsbotham,[8]	44	8
Lever,[9]	14	2
Lee,[10]	38	14
Wilson,[11]	26	10
London Maternity Charity,[12]	50	33
Total,	399	134

From the above Table, it thus appears that out of 399 cases of placental presentations which are collected into it, the result was fatal to the mother in 115 instances, or, in other words, *one in every three of the mothers perished in connection with this complication.*

The dangers of placental presentations to the mothers may appear stronger to some minds, if I state it in other terms. Two of the most fatal epidemics of modern times, are yellow fever, and Indian or malignant cholera. In the well-known yellow fever of Gibraltar, of 1828, the mortality among those attacked was nearly 1 in $4\frac{1}{2}$.[13] In 1832–33, about one in $3\frac{1}{2}$ of those affected in England with the epidemic cholera, died.[14] Hence those mothers who are the subjects of placental presentations, are submitted to as great peril of life from this obstetric complication, as they would be, if seized with yellow fever or malignant cholera. Further, the operation of lithotomy is generally regarded as one of the most formidable in surgery, and is calculated to be fatal in the proportion

---

Dr Smellie's as recoveries, where an opposite result is not directly stated. The context seems to warrant this.

[1] An Essay on Uterine Hemorrhage, 6th Edition, p. 262.

[2] Transactions of King and Queen's College of Physicians, vol. i., p. 380.

[3] Practical Observations in Midwifery, p. 96. The returns of Drs Clarke and Collins are classed together, as both coming from the Dublin Lying-in Hospital.

[4] Forbes' British and Foreign Review, vol. v., p. 587.

[5] La Pratique des Accouchemens, p. 224.

[6] Pratique des Accouchemens, tom. ii., pp. 415–461.

[7] Practical Observations in Midwifery, part ii. pp., 195–233.

[8] Principles of Obstetric Medicine and Surgery, 2d Edition, pp. 395–6.

[9] Guy's Hospital Reports, vol. vi., p. 66.

[10] Lectures on the Theory and Practice of Midwifery, p. 371.

[11] From MS. notes of Dr Wilson, formerly Lecturer on Midwifery, and deservedly one of the most highly esteemed and distinguished obstetric practitioners in Glasgow. Most of the fatal cases were instances which Dr W. saw in consultation.

[12] London Medical Gazette, for July 19, 1844.

[13] Out of 5383 persons attacked, 1183 died.—See *Researches on the Yellow Fever of Gibraltar*, by Dr Louis of Paris. Boston, 1839. P. 259.

[14] Dr Merriman has calculated, from official returns, that 49,594 individuals were affected with epidemic cholera, in England, and that 14,807 of them died, giving the proportion in the text. In Scotland and England, the mortality was greater. See *Medico-Chirurgical Transactions*, vol. xxvii., p. 416.

of 1 in every 6 or 8 subjected to it.[1] The occurrence of placenta prævia is twice as dangerous and fatal as the operation of lithotomy,—1 in every 3 perishing under the first, and 1 in every 6 or 8 perishing under the last.

Looking at these results, it will, we believe, be readily conceded, that any attempt—such as is the professed object of the present memoir—to diminish this fearful maternal mortality in placenta prævia, is entitled, at least, to the consideration of the obstetric profession, even should it fail to be so fortunate as to secure their concurrence and conviction.

SECTION II.—RECOGNIZED PRINCIPLES OF TREATMENT:—1. EVACUATION OF THE LIQUOR AMNII; AND, 2. DELIVERY BY TURNING. PROPOSAL OF A THIRD PRINCIPLE—THE COMPLETE SEPARATION OF THE PLACENTA—GROUNDS FOR PROPOSING IT—ILLUSTRATIVE CASES.

Hitherto, two great principles of treatment, if we leave out the minor details of management, may be said to have been pursued by obstetric practitioners, in the treatment of placental presentations. And the two modes of practice I allude to are supposed by many to be applicable to two different stages or degrees of the complication.

1. *Evacuation of the Liquor Amnii.*

In some cases of placenta prævia, and under some circumstances, the artificial evacuation of the liquor amnii is recommended to be had recourse to, and thus the same treatment is followed for "unavoidable" hemorrhage, as is followed by most practitioners in instances of "accidental" hemorrhage. This mode of practice has been especially applied of late to cases in which the presentation of the placenta was only *partial*, and where, consequently, a portion of the membranes was within reach, and to instances in which the hemorrhage was comparatively slight in its degree and effects. About a century and a half ago, the same treatment seems to have been employed also by some practitioners, in instances in which the placenta presented completely over the os uteri, the placental structure being perforated artificially with the finger or an instrument, in order to permit the liquor amnii to escape. After recommending, that in placenta prævia, the membranes should be pierced, or the fingers thrust through the placenta, "that at last it be perforated, and instead of the constant flux of blood which appeared before, the humours will presently flow out," Daventer,[2] writing about the year 1700, adds, "some pene-

[1] "The average mortality from lithotomy, on all hands, appears at present to be about one in eight."—Dr Willis' *Urinary Diseases*, 1838: p. 347. Mr Inman has calculated the mortality from lithotomy to be 1 in every $7\frac{3}{4}$ cases, 765 patients having died out of 5900 operations which he had collected.—See *Lancet* for October 5, 1844.

[2] The Art of Midwifery Improved. London: 1715. Pp. 153–4.

trate the secundines with a *hair needle*,[1] which I do not approve of, if it can be done with the fingers, because the infant is easily hurt." Under some conditions in placenta prævia, Deleurye[2] recommends the piercing of the placenta with a trocar, in order to allow the liquor amnii to be drained off. Baudelocque[3] speaks of the same practice as probably useful in instances of complete or central presentation of the placenta, when the cervix will not allow of turning; and in later years, the same plan has been again proposed by the elder Dr Ramsbotham,[4] and successfully put in practice by Gendrin[5] of Paris.

2. *Delivery of the Child by Turning.*

In the generality of cases of unavoidable hemorrhage from placental presentation, the practice which is adopted consists in forcing the delivery by passing the hand through the os uteri up to the feet of the infant, and extracting the child by the operation of podalic turning. This last mode of treatment is the one universally followed when the hemorrhage is very severe, and whether the artificial evacuation of the liquor amnii has preceded it or not, and it is a plan of treatment usually pursued where the presentation of the placenta over the os uteri is central or entire. By some accoucheurs indeed, as Drs Burns and Hamilton, Baudelocque, Capuron, and others, the forcible delivery of the woman by the operation of turning, is the *only* mode of treatment that is thought advisable under any circumstances in connection with *placenta prævia*. It is, according to Plenck, "nullo remedio sed sola extractione fœtus curanda."[6] "All the best practical writers are," says Dr Merriman, "unanimous on this point, that the case of placenta adhering over the cervix uteri, is not to be trusted to nature. In all cases of attachment of the placenta over the os uteri, it is incumbent upon the accoucheur to make up his mind to the operation of turning the child, and bringing it into the world by the feet."[7] "This is a case," Dr Conquest remarks,[8] "in which we ought never to confide in the powers of nature, because expulsatory uterine efforts only augment the peril of the patient; and therefore the hand must be either bored through the substance, or, what is better, passed by the edge of the placenta, and the child turned." It is completely established, (to quote the words of Dr Dewees,)[9] "that the only chance the woman has for life, is by a well-timed

[1] "Placentam vel secundinam *acu crinali* perfodiunt,"—to quote the original Latin. See p. 138 of the second edition of Daventer's *Novum Lumen, &c.* Leyden: 1733. The first edition was published in 1701.

[2] Traité des Accouchemens. Paris, 1777: p. 369.

[3] System of Midwifery, translated by Heath, vol. ii., p. 38.

[4] Practical Observations, part ii. p. 189.

[5] Traité Philos. de Médecine Pratique, tom. ii., 548.

[6] Elementa Artis Obstetricæ, 1781, p. 133.

[7] Synopsis, &c. of Difficult Parturition, 1826, pp. 126–7.

[8] Outlines of Midwifery, p. 157.

[9] System of Midwifery, p. 394.

and well-conducted delivery in every case of placental presentation." When hemorrhage," says Dr Denman,[1] "from this cause, (placental presentation,) comes on, though all women without proper assistance would not die, none are free from danger till they are delivered. As there is a very doubtful chance of the delivery by the pains of labour, and as experience has fully proved the frequent insufficiency of all other methods intended to suppress the hemorrhage, and how little reliance ought to be placed on them, though they are always to be tried; it is a practice established by high and multiplied authority, and sanctioned by success, to deliver women by art, in all cases of dangerous hemorrhage, without confiding in the resources of the constitution. This practice is no longer a matter of partial opinion, on the propriety of which we may think ourselves *at liberty* to debate; it has for near two centuries met the consent and approbation of every practitioner of judgment and reputation in this and many other countries. (See Mauriceau and almost every succeeding writer.)"

Cases of Placenta Prævia,—not unfrequently occur in practice in which neither of the two preceding plans can be successfully adopted,—where the artifical evacuation of the liquor amnii is insufficient to moderate the hemorrhage to a safe degree, and where forced delivery by turning is inapplicable or extremely dangerous if adopted. In these and other cases, I would beg to submit to my obstetric brethren, an additional principle of treatment, viz.

3. *The Complete Separation, and, if necessary, Extraction of the Placenta before the Child.*

I shall first state the grounds on which I venture to found the propriety of this proposed addition to the treatment of the very anxious and very dangerous cases of which we speak.

Obstetric pathologists seem unanimous in the opinion that all the more formidable varieties of hemorrhage, which occur from the uterus in the latter months of utero-gestation, or the earlier periods of labour, are attributable to the separation of the vascular connections between the placenta and the interior of the uterus, and the escape of blood from the vessels which are laid open in consequence of this separation.

Paradoxical as it may appear, there are sufficient grounds and facts for believing, that when the placenta is separated slightly and partially, the chance of fatal hemorrhage to the mother is greater than when the disunion of the organ is more entire and complete. Various authors have detailed cases in which the death of the mother speedily took place though the portion of the placenta separated from the uterus was exceedingly small. Thus Dr

[1] Introduction to Midwifery, p. 527.

Hamilton mentions that in several cases which had fallen under his observation, and where he was called too late to afford proper assistance, it was discovered that the fatal hemorrhage had proceeded from the separation of "a very small portion of the placenta." In one instance of fatal hemorrhage between the 7th and 8th month of utero-gestation, he found on dissection that "the area of the separated placenta was less than a square inch."[1]

On the other hand I believe I have collected a sufficient number of data to prove that when the disjunction of the placenta from the uterus is *perfect* and *complete*, the degree of maternal hemorrhage that occurs is in general exceedingly slight and trifling, or it is altogether arrested. The details of a few cases may illustrate and impress the fact which I wish to point out.

Case of Placenta Praevia; placenta expelled upwards of three hours before the child; no hemorrhage in the interval; child removed by decapitation and extraction.—In 1840 I was requested by my friend Dr Graham Weir to see a patient about the 5th month of pregnancy, who had been attacked with very severe hemorrhage. It was her third or fourth pregnancy. After the flooding had continued for some time, the placenta was expelled. *From the time of its expulsion the hemorrhage ceased.* The shoulder and neck of the infant were presenting over the os uteri. The uterus itself was so rigidly contracted and small, as to prevent the possibility of the introduction of the hand for the operation of turning. At my suggestion, Dr Weir severed the neck of the infant. Its body was then easily extracted by pulling at the presenting arm; and its head was immediately afterwards expelled by the unassisted action of the uterus. From three to four hours elapsed between the protrusion of the placenta and the complete delivery of the woman, yet during that time she lost little or no blood, and her recovery was speedy and perfect.—*See subsequent General Table, Case No.* 16.

Case of Placenta expelled about two hours before the child; elbow of the child presenting.—In 1841 I was requested by Dr Lewins of Leith to visit a case of complicated unavoidable hemorrhage. I saw the patient shortly after 9 o'clock in the morning. Labour pains had come on about 4, and a considerable degree of hemorrhage had accompanied them. Shortly after 7 o'clock, Dr Lewins, on visiting the patient, found the placenta expelled through the os uteri. When I saw the woman, nearly two hours afterwards, the placental mass was lying between her thighs, and attached to her by the umbilical cord. She was weak from the hemorrhage that had occurred previous to the expulsion of the placenta, but from the time that organ had been extruded, *the flooding had almost*

[1] Practical Observations, 2nd edition, p. 314.

entirely ceased. I found the elbow of the child presenting; and as the os uteri was well dilated, it was easy to bring down a lower extremity, and terminate the labour. The patient recovered without a bad symptom.—*See Table, No.* 20.

Case of placenta expelled some minutes before the child; no intervening hemorrhage; child expelled by natural pains, and revived.—For the details of this case I am indebted to Dr Dewar, of Dunfermline, and shall give the circumstances in his own graphic words. "Some blood," he says, "had been lost as nearly as we could calculate at what would have been the seventh and eighth menstrual periods, and several times between the eighth and ninth months, and that in spite of an entire cessation from all exercise. Labour took place at the full time, and, as was dreaded, was accompanied with severe hemorrhage from the beginning. When I saw her, about an hour after pain had begun, the orifice of the uterus was pretty well dilated, and a soft spongy mass, apparently the centre of the placenta, protruded from it. There was no time for interference, for almost instantly a strong pain forcibly expelled the whole of the placenta from the vagina. *To my surprise the flooding ceased.* Pains continued active, and the child was born in less than ten minutes. After a little time the infant revived, and the mother recovered well, though considerably exhausted."—*See Table, No.* 48.

Case of great hemorrhage, and expulsion of the placenta under strong uterine action; child extracted by turning some hours afterwards.—Mrs H., during her second pregnancy, (her first child having been premature), had a slight flooding about the seventh month. When in the eighth month, labour commenced early in the morning of the 18th May, with slight pains, and sanguineous discharge. These continued more or less severely till the evening of the 19th, when, as Mrs H. was resting upon her knees and elbows, an immense gush took place, along with an unusually strong pain. Immediately afterwards, on being laid down, the placenta was found protruding from the external parts. The attendant midwife immediately sent off to a distance of several miles for two medical gentlemen, who arrived about half-past one o'clock on the morning of the 20th. In the mean time, the hemorrhage was inconsiderable. The medical men attempted to turn, and deliver the child, but encountered great difficulties in doing so, the head having remained fixed in the pelvis for an hour or two after the body was born. The recovery was tedious. The patient (now one of the most respected and intelligent midwives in Edinburgh) has had three children since the above period.—*See Table, Case No.* 2.

Case of unavoidable hemorrhage terminated by the expulsion of the placenta; child allowed to be delivered by the natural pains.—"About half-past six in the morning of April 29th, 1818, a messenger,"

says Dr Ramsbotham, "arrived at my house, sent by two medical gentlemen, with a note to this purport: 'We are in attendance upon Mrs H., whose situation is involved in great uncertainty, from a placental presentation; the bleeding is going on pretty actively, and we wish for your immediate opinion.' On my arrival at the house of the lady, about eight, I was told by one of the gentlemen, "that since the note was sent off, some strong expulsive pains had come on, which had expelled the placenta through the external parts before the head of the child, and that it was lying upon the bed. That before this occurrence the hemorrhage had been violent, yet not to that extent as apparently to endanger the woman's life; but that since the appearance of the placenta *the flooding had very much abated.*' During our conversation on this unusual occurrence, the gentleman more immediately in attendance, who, at my arrival, was in the bed-room of his patient, came down stairs, and reported, 'that the head was presenting at the brim of the pelvis, with a hand down by its side; that there was no want of uterine action; *that the flooding had ceased;* and that his patient did not seem much exhausted.' An appeal was now made to my opinion, as to the further management of the case, to which I replied, 'that as the flooding (the most dangerous symptom) had abated, as the labour-pains continued active, and especially as the woman's strength kept up, there did not appear to be an immediate necessity for a recourse to any means for hastening delivery; watch your patient for a short time, and wait the result: if the flooding should return, or if any dangerous symptom make its appearance, let us know.' In about half an hour after this interview, the gentleman returned with a cheerful countenance, and stated, that the child was expelled without further loss of blood, and that his patient was promising to do extremely well." &c.—*Practical Observations*, case 154, part ii., p. 229.

Case of placenta gradually coming down, during the labour, into the os uteri, and being at last expelled four hours before the child; with no intermediate hemorrhage.—Mrs C., in the eighth month of her second pregnancy, was taken in labour on Sunday evening, about nine o'clock. Mr Chapman was called to her about twelve o'clock. He was informed the membranes had been ruptured for some time. The os uteri was dilated to the size of a crown-piece, and the head presenting, but still very high. The pains were very strong and regular. On a second examination, an edge of the placenta was discovered "beginning to protrude through the os uteri," with a hemorrhage which was trifling, but increased upon the return of the pains, though still so inconsiderable as not to be directly alarming. Mr C. did not hence conceive himself justified in proceeding to immediate delivery. But as upon every return of pain the placenta became more and more protruded through the os uteri, without the head advancing, the advice of another prac-

titioner was sought. Previous, however, to his arrival, the pains proved so strong that the os uteri became dilated, and the placenta was completely expelled through the os externum, about three o'clock on Monday morning, with very little hemorrhage. From this moment the pain entirely ceased. The other practitioner did not arrive until five o'clock. "*There had not*," to use Mr Chapman's own words, "*been the least hemorrhage since the expulsion of the placenta.*" It was now resolved to turn the child; but after two prolonged attempts the feet could not be seized, the uterus being spasmodically contracted in the longitudinal direction, and the circular fibres appearing to act without the consent of the longitudinal. "During the whole of this time the hemorrhage had not in the least increased." Twelve drops of the tincture of opium were now administered. In a very short time the patient became easy and comfortable; and in less than half an hour the natural pains returned, and speedily expelled the child, with the head and arm presenting. Nothing remarkable happened in the convalescence, except a trifling attack of phlegmasia dolens, an affection which the patient had likewise suffered from after her first labour.—*See Table, No.* 13.

Case of placental and shoulder presentation; placenta expelled; turning.—The patient, in the sixth month of her fifteenth pregnancy, was attacked with a hemorrhage that was alarming in extent, but not so great in quantity as to produce syncope. "I saw her," Dr Ramsbotham writes, "two hours after the first attack of flooding. The placenta was now lying completely in the vagina, *and there was not the least hemorrhage*. The membranes were ruptured. The shoulder of the child presented. The cervix uteri was unexpanded and rigid, and it was consequently impossible to get my whole hand into the uterine cavity, but I succeeded into the ham of the infant, and was by this means enabled to turn and deliver." "An hour or more" elapsed between the complete detachment of the placenta and the birth of the child. It had been dead for some time. The mother recovered perfectly.—*See General Table, Case No.* 26.

Case of placental and arm presentation; placenta in the vagina, and without hemorrhage, for about eight hours before the child was born.—In a woman who had completed the full time of pregnancy, Dr Macaulay found the placenta expelled from the uterus, and lying in the vagina. She had been flooding previously, but it had ceased about eight o'clock in the morning of the 13th February 1816. The late Dr Kellie of Leith visited the patient along with him. The woman peremptorily refused to allow Drs Macaulay and Kellie to deliver her. About four o'clock P.M. the pains quickened, the placenta was expelled out of the vagina, and about half an hour afterwards an anencephalous infant followed. The child was in every way well shaped, except as regarded the head.

"Dr Kellie told me," to quote Dr Macaulay's note, "that the head was the smallest he had ever seen, and remarked, that though it was an axiom in midwifery, that when the placenta was implant ed over the os uteri, hemorrhage *must* continue till the uterus was emptied, *yet here it stopped as soon as the placenta came down.*"—*See Table, No.* 10.

SECTION III.—TABLE OF 141 CASES OF EXPULSION AND EXTRACTION OF THE PLACENTA BEFORE THE CHILD—ARRANGEMENT AND DIVISIONS OF THE TABLE.

I have been able to find upon record fifty-six cases of Placental Presentation in which the placental mass was expelled before the child, as in the preceding seven or eight instances which I have brought forward in the last section. Through the kindness of my professional friends, I have collated the notes of seventy-four additional unpublished instances in which the same accident happened. As the entire detail of more instances than those I have already stated would, at the present stage of our inquiries, only swell out our pages, without any corresponding advantage, I have deemed it better to throw the principal facts, connected with all the cases which I have collated, into a tabular form, in order to present thus in a more concise manner their general and individual peculiarities. It is only necessary to premise, in regard to the following table, that under the heads referring to the degree of hemorrhage before and after the separation of the placenta, and the time or interval between the expulsion of the placenta, and expulsion of the child, I have as nearly as possible adhered to the identical words used by the reporters themselves, in each case. The table commences with those instances in which the interval between the birth of the placenta and the birth of the child was longest, and progressively proceeds to those in which this interval became shorter and shorter, till at last we come to a set of cases in which the placenta and infant were expelled simultaneously.

For the purpose of assisting in some subsequent deductions, the table is split up into the four following divisions.

1*st Division.*—Cases in which a considerable interval—varying from ten minutes to ten hours—elapsed between the expulsion of the placenta and the birth of the child, including the forty-seven instances standing at the head of the table.

2*d Division.*—Cases (comprehending those from No. 48 to No. 71) in which the intervening interval was shorter.

3*d Division.*—Cases (running from No. 72 to No. 101) in which the child was born immediately after the extrusion of the placenta, or expelled along with it.

4*th Division.*—Cases, from No. 102 onwards, in which the period intervening between the expulsion of the placenta and child is not specified by the reporters, though the context shows that in many of this class the interval was evidently considerable.

GENERAL TABULAR VIEW OF ONE HUNDRED AND FORTY-

THE PLACENTA PRECEDED

FIRST

CASES IN WHICH A CONSIDERABLE INTERVAL (FROM 10 HOURS TO 10 MINUTES)

	By whom observed or reported.	No. of the pregnancy.	Period of delivery.	Degree of hemorrhage *before* the entire separation of the placenta.	Degree of hemorrhage *after* the entire separation of the placenta.	Mode of delivery of the child.
1	Dr Collins, Dublin.	...	9th month.	...	...	...
2	J. Y. Simpson.	2d.	8th ,,	Excessive.	Inconsiderable.	Turning.
3	Mr Cripps, Liverpool.	3d.	9th ,,	A good deal.	None.	Turning.
4	Dr Merriman, London.	...	...	...	...	By natural pains.
5	Mr Hewitt, Earlston.	...	...	Little or none.	...	By natural pains.
6	Dr J. Ramsbotham.	...	...	...	Little.	Turning.
7	Dr Newman, Glasgow.	...	9th month.	Great.	None.	By natural pains.
8	Baudelocque.	...	...	...	...	...
9	Walter.	...	...	{ Almost none. (not 2 oz. in all.) }	Almost none.	Turning.
10	Dr Macaulay, Edinburgh.	Not 1st.	Full time.	Great.	None.	By natural pains.
11	Velpeau.	...	...	None.	None.	...
12	Mr Perfect.	...	...	Slight.	Slight.	Turning.
13	Mr Small, Wemyss.	7th.	7th month.	Very great.	Very trifling.	By natural pains.
14	Mr Chapman.	4th.	8th ,,	Slight.	Very slight.	By natural pains.
15	Dr Radford, Manchester.	9th.	9th ,,	Very great.	Quite arrested.	Long Forceps.
16	Mr Sidebottom, ditto.	7th.	9th ,,	Profuse.	Ceased.	By natural pains.
17	J.Y. Simpson.	3d or 4th	5th ,,	Great.	None.	Decapitation.
18	Dr Radford, Manchester.	7th.	9th ,,	Very considerable.	Quite arrested.	By natural pains.
19	Dr Ingleby, Birmingham.	Several.	9th ,,	Not very great.	None.	Turning.
20	Mr Bailey, Thetford.	...	7th ,,	Profuse.	...	Turning.
21	J. Y. Simpson.	...	7th ,,	Not great.	None.	Turning.
22	J. Y. Simpson.	6th.	7th and 8th.	Very great.	None.	By natural pains.
23	Dr Todd, Colinsburgh.	Several.	8th ,,	Not alarming.	...	...
24	Dr Fraser, Aberdeen.	1st.	9th ,,	Moderate.	Scarcely any.	Turning.
25	Dr Radford, Manchester.	3d.	9th ,,	Very profuse.	Quite arrested.	By natural pains.
26	Dr Gardiner, Glasgow.	1st.	9th ,,	Very great.	None.	By natural pains.
27	Dr F. Ramsbotham.	15th.	6th ,,	Alarming.	Not the least.	Turning.
28	Professor Gendrin.	2d.	8½ months.	None during labour.	None.	By natural pains.
29	Mr Wood, Manchester.	8th.	9th ,,	Very great.	Quite stopped.	By natural pains.
30	Dr Campbell, Edinburgh.	1st.	8th ,,	Little.	...	...
31	Dr Gardiner, Dundee.	1st.	7th ,,	Moderate.	Very slight.	By natural pains.
32	Mr Hay, Glasgow.	1st.	9th ,,	Excessive.	Very little.	Naturally.
33	Dr Ingleby, Birmingham.	9th.	5th ,,	Great.	None.	Turning.
34	Dr Irvine, Pitlochy.	10th.	9th ,,	None.	None.	Extraction.
35	Dr Young, Glasgow.	1st.	6th and 7th.	Very great.	None.	By natural pains.
36	Dr John Ramsbotham.	...	...	Violent.	Soon ceased.	By natural pains.
37	Dr Todd, Colinsburgh.	Several.	...	Not great.	...	...
38	Dr Radford, Manchester.	5th.	8th month.	Very great.	Quite arrested.	By natural pains.
39	Dr Wharrie, Hamilton.	9th.	8th to 9th.	Considerable.	None.	By natural pains.
40	Mr Dorrington, Manchest.	7th.	9th month.	Great.	None.	By natural pains.
41	Dr Forbes, Kennoway.	4th.	9th ,,	Very great.	{ None of any consequence. }	Forceps.
42	Dr Millar, Kilmarnock.	1st.	7th ,,	Great, 6 lbs. in 2 days.	Slight oozing.	Turning.

REMARKS.

4. See details under Section VI.
5. Mr H. was sent for on account of the expulsion of the placenta, nothing unusual having occurred beforehand. He was some miles distant, but arrived just before the child was born. There was little or no hemorrhage.
8. "A midwife had extracted the placenta some hours before, and had been unable to turn the child, whose arm presented with the head. The uterus was strongly contracted on the child, and discharged but a few drops of blood."
9. See details under Section VI.
10. See Case under Section II.
11. See Section V.
14. "In this case, very little more blood was lost than women usually do, when the placenta is expelled in the usual manner."
15. "In this case, the expulsatory efforts were energetic to the time of accomplishing the separation and expulsion of the placenta, when they ceased. No hemorrhage occurring afterwards, it was deemed advisable to wait the 4 hours."
18. "The hemorrhage being arrested, there was no need to interfere, further than to adopt those measures which are necessary to support the vital powers."
19. "The placenta had been expelled nearly through the os externum. A large quantity—nine-tenths, I should say—had been cut off with a pair of scissars. I saw the case very soon afterwards; passed my hand, and delivered the child, and then removed the small bit of placenta and membranes."

ONE CASES, IN WHICH THE EXPULSION OR EXTRACTION OF THE BIRTH OF THE CHILD.

DIVISION.

ELAPSED BETWEEN THE EXPULSION OF THE PLACENTA AND THE BIRTH OF THE CHILD.

Time between birth of placenta and birth of child.	Presentation of the child.	Results.		Where reported, or by whom communicated.
		To mother.	To child.	
Evening before.	Foot.	Recovered.	Dead.	"Practical Observations," p. 192.
Several hours.	...	Recovered.	Dead.	See Case of Mrs H., in Section II.
10 hours.	Arm.	Recovered.	Dead.	Communicated by Mr Cripps.
Many hours.	...	Died.	...	Synopsis, p. 126.
A considerable time.	...	Recovered.	...	Communicated by Dr Tait, Edinburgh.
A considerable time.	Head.	Recovered.	...	Practical Observations, vol. II. p. 232.
Several hours.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Some hours.	Arm and head.	Recovered.	...	Baudelocque, vol. II. p. 37.
Probably some hours.	Crossbirth.	Died.	Dead.	De Morbis Peritonei, p. 33.
About 8 hours.	Arm and Head.	Recovered.	Dead.	Communicated by Dr Macaulay.
Above 6 hours.	...	Recovered.	Dead.	Traité des Accouchemens, I., p. 356.
5 hours.	Abdomen.	Recovered.	Alive.	Cases in Midwifery, vol. II., p. 288.
4 to 5 hours.	Head.	Recovered.	Dead.	Communicated by Dr Skae, Leven.
4 hours.	Head and Arm.	Recovered.	...	Annals of Medicine, vol. IV., p. 308.
4 hours.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
4 hours.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
3 or 4 hours.	Shoulder.	Recovered.	Dead.	Seen with Dr Graham Weir.
3 hours.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
About 3 hours.	Head.	Recovered.	Dead.	Communicated by Dr Ingleby.
Above 2 hours.	...	Recovered.	Dead.	Prov. Trans., vol. VII., p. 338.
Above 2 hours.	Arm.	Recovered.	Dead.	Seen with Dr Lewins of Leith.
Nearly 2 hours.	Head.	Recovered.	Dead.	Seen with Mr Hill, Portobello.
Less than 2 hours.	...	Recovered.	Dead.	Communicated by Dr Todd.
1½ hour.	Arm.	Recovered.	Dead.	Communicated by Dr Fraser.
1½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
About 1½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
An hour or more.	Shoulder.	Recovered.	Putrid.	Communicated by Dr Ramsbotham.
1 hour.	...	Recovered.	Putrid.	Médecine Pratique, tom. ii., p. 224.
1 hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
...	Breech.	Recovered.	Dead.	System of Midwifery, p. 360.
About 1 hour.	Breech.	Recovered.	Dead.	Communicated by Dr Gardiner.
About 1 hour.	Head.	Died.	Dead.	Communicated by Dr Smith, Glasgow.
About 1 hour.	Head.	Recovered.	Dead.	Communicated by Dr Ingleby.
About 1 hour.	Feet.	Recovered.	Putrid.	Communicated by Dr Irvine.
Above ½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Above ½ hour at least.	...	Recovered.	...	Pract. Obs., Case 154, vol. II., p. 229.
At least ½ hour.	...	Recovered.	Dead.	Communicated by Dr Todd.
½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Thompson, Hamilton.
½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Within ½ hour.	Head.	Recovered.	Dead.	Communicated by Dr Skae, Leven.
About ½ hour.	Shoulder.	Recovered.	Dead.	Communicated by Dr Paxton.

REMARKS.

20. "I found the vagina completely filled with the placenta, and the os uteri firmly contracting upon the funis."
25. "The hemorrhage was very excessive, so long as the placenta was only partially separated, but was immediately suppressed by completely detaching it."
27. Dr R. saw her "two hours after the first attack of flooding. The placenta was then wholly in the vagina, but there was not the least hemorrhage; the membranes were ruptured; the cervix unexpanded."
29. "Flooded 9 hours before placenta was expelled, but was immediately suppressed, on its expulsion."
30. Dr C. kindly informs me that the woman recovered perfectly.
31. Note by Dr G. "There was no flooding previous to the commencement of labour pains, and it was moderate throughout.
32. See case given in full, in Section VI.
34. "Absolutely no more hemorrhage than in a common natural labour."
37. Dr T. found the placenta lying in the vagina; the pains were strong and effective; and the infant was expelled in half an hour.
39. Dr Wharrie found the placenta partly in the vagina, and partly in the os uteri. He extracted it by a kind of twisting motion, and the hemorrhage immediately ceased.
42. "In this case, the pains entirely left her after the expulsion of the placenta; a full dose of ergot was given, the os uteri being fully dilated, and was followed by one or two smart pains, by which the child was expelled."

(FIRST DIVISION

	By whom observed or reported.	No. of the pregnancy.	Period of delivery.	Degree of hemorrhage *before* the entire separation of the placenta.	Degree of hemorrhage *after* the entire separation of the placenta.	Mode of delivery of the child.
43	Dr Millar, Kilmarnock.	10th.	9th ,,	Great, 8 lbs. in 3 days.	About a pound.	Gentle Traction.
44	Dr Malcolm, Dundee.	Large fam.	...	Very little.	...	Turning.
45	Lamotte.	...	...	Great.	...	Turning.
46	Dr F. Ramsbotham.	9th.	9th month.	Very great.	None.	By natural pains.
47	Mr Johnstone, Brompton.	5th.	9th ,,	Very great.	None.	By natural pains.

SECOND

CASES IN WHICH A SHORTER INTERVAL (LESS THAN 10 MINUTES) ELAPSED

48	Dr Dewar, Dunfermline.	...	9th ,,	Profuse.	None.	By natural pains.
49	Dr Fraser, Aberdeen.	6th.	8th ,,	Very moderate.	Great.	Turning.
50	Mr Nimmo, Dundee.	Large fam.	...	Considerable.	...	By natural pains.
51	Dr John Ramsbotham.	...	...	Severe.	Stopped.	By natural pains.
52	Dr John Ramsbotham.	3d.	9th month.	...	None.	By natural pains.
53	Dr F. Ramsbotham.	12th.	9th ,,	Exhausting.	None.	Turning.
54	Dr Smith, Lasswade.	3d.	9th ,,	Excessive.	...	By natural pains.
55	Dr Maxwell Adams.	...	7th ,,	Very profuse.	...	...
56	Dr Barlow.	2d.	9th ,,	Profuse.	Profuse.	Turning.
57	Mr Crawford, Glasgow.	5th.	9th ,,	Not great.	None.	Turning.
58	Mr Crawford, ,,	4th.	9th ,,	Exhausting.	None.	Turning.
59	Dr M'Donald, ,,	7th.	9th ,,	Excessive.	"A good deal."	Turning.
60	Dr F. Ramsbotham.	2d.	6½ months.	Exhausting.	None.	Evisceration.
61	Dr F. Ramsbotham.	3d.	8th ,,	Most violent.	None.	By natural pains.
62	Mr Tindal, Glasgow.	10th.	9th ,,	Fearful.	None.	Turning.
63	Mr Denny.	...	...	...	...	By natural pains.
64	Dr Conquest, London.	Large fam.	6½ months.	Active.	...	...
65	Mr Elkington, Birmingh.	...	7th, 8th mo.	A good deal.	...	By natural pains.
66	Mr Rose, Swaffham.	7th.	9th ,,	Not alarming.	None.	By natural pains.
67	Reviewer.	...	...	...	...	By natural pains.
68	Dr Menzies, Glasgow.	3d.	8th, 9th mo.	Considerable.	None.	By natural pains.
69	Mr James.	5th.	8th ,,	Very great.	Slight.	By natural pains.
70	Dr Francis.	...	...	...	...	By natural pains.
71	Dr Wilson, Whitburn.	4th.	...	Slight.	...	By natural pains.

THIRD

CASES IN WHICH THE PLACENTA WAS EXPELLED IMMEDIATELY

72	Mr Greenhow, Newcastle.	6th.	7th month.	Considerable.	...	Extracted.
73	Mr Campbell, Glasgow.	1st.	7th, 8th ,,	Excessive.	...	Turning.
74	Mr Fleming, ,,	5th.	...	Considerable.	...	Turning.
75	Mr Hardcastle, Newcastle.	Several.	7th, 8th.	Very great.	...	By natural pains.
76	Mr Lowe, Manchester.	3d.	8th ,,	Very profuse.	...	By natural pains.
77	Mr Sidebottom, ,,	3d.	9th ,,	Very copious.	...	By natural pains.
78	Dr Smellie.	Several.	9th ,,	Slight.	...	By natural pains.
79	Dr Stewart, Kelso.	6th.	8th ,,	Severe.	...	By natural pains.
80	Mr Tulloch, Newcastle.	Several.	7th ,,	...	...	...
81	Mr Wood, Manchester.	6th.	8th ,,	Very profuse.	...	By turning.
82	Mr Wood, ,,	5th.	9th ,,	Very considerable.	...	By natural pains.
83	Dr Young, Edinburgh.	...	9th ,,	Very great.	...	By turning.
84	Dr Currie, Lanark.	4th.	...	Violent.	...	By natural pains.
85	Dr Carruthers, Dundee.	3d or 4th.	9th month.	Considerable.	...	By natural pains.
86	Dr F. Ramsbotham.	4th.	8th ,,	Violent.	...	By natural pains.

REMARKS.

43. "The placenta was lying partly in the vagina, and partly in the uterus. After its extraction, the feet presented, which were laid hold of, and, at each pain, firm but gentle traction employed, till the child was delivered."
45. "I found the placenta occupying wholly the vagina, and pushing almost out of it. I immediately pulled it away, whereupon the membranes being torn, the waters came in great plenty, and I brought away a dead child by the feet." The flooding had been excessive.
46. Dr R. found the membranes pressing on the perineum, and the whole of the placenta almost in the vagina. It passed outside immediately on rupturing the membranes.
48. See Case under Section II.
49. See Case under Section VI.
52. Violent hemorrhage came on two days before delivery. It ceased entirely, however, and did not return.
53. Copious hemorrhage came on 3½ hours before delivery, on the membranes spontaneously rupturing. Dr R. found great part of the placenta in the vagina; there was no pain nor hemorrhage: and he would not have turned, had the shoulder not been the presenting part. The placenta came away, as the shoulders were passing the brim, before the head was extracted.
56. The placenta was expelled while she was on her feet. "She attempted to walk up stairs, and before she could reach the bed, a violent pain seized her, which instantly expelled the placenta, and disparted the funis about

—*Continued.*)

Time between the birth of placenta and birth of the child.	Presentation of the child.	Results.		Where reported, or by whom communicated.
		To mother.	To child.	
20 minutes.	Feet.	Recovered.	Dead.	Communicated by Dr Paxton.
Upwards of 20 minutes.	Arm.	Recovered.	Dead.	Communicated by Dr Keiller.
Not ½ hour.	...	Recovered.	Dead.	Traité des Accouchemens, p. 407.
10 minutes.	Head.	Recovered.	Dead.	Communicated by Dr Ramsbotham.
About 10 minutes.	Head.	Recovered.	Dead.	Communicated by Dr Elliot, Carlisle.

DIVISION.

BETWEEN THE SEPARATION OF THE PLACENTA AND THE BIRTH OF THE CHILD.

Less than 10 minutes.	...	Recovered.	Alive.	Communicated by Dr Dewar.
5 or 10 minutes.	...	Died.	Alive.	Communicated by Dr Fraser.
A short time.	Breech.	Recovered.	Dead.	Communicated by Dr Keiller.
A short time.	...	Recovered.	...	Pract. Obs., Case 155, vol. II., p. 231.
A short time.	Breech.	Recovered.	Putrid.	Pract. Obs., Case 156, vol. II., p. 233.
A short time.	Shoulder.	Recovered.	Dead.	Communicated by Dr F. Ramsbotham.
A few pains.	Head.	Recovered.	Alive.	Communicated by Dr Smith.
A few minutes.	Foot.	Recovered.	Putrid.	Monthly Journal, vol. IV., p. 936.
A few minutes.	Shoulder.	Recovered.	Alive.	Essays on Midwifery, p. 273.
A few minutes.	Head.	Recovered.	Alive.	Communicated by Dr Smith, Glasgow.
A few minutes.	Head.	Recovered.	Alive.	Communicated by Dr Smith, Glasgow.
A few minutes.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
A few minutes.	Shoulder.	Died.	Dead.	Communicated by Dr F. Ramsbotham.
A few minutes.	Head.	Recovered.	Dead.	Communicated by Dr F. Ramsbotham.
A few minutes.	Head.	Died.	Dead.	Communicated by Dr Smith, Glasgow.
Next pain.	...	Recovered.	Alive.	Lancet, 1831, 1832, vol. I., p. 110.
Next pain.	...	Recovered.	Dead.	Communicated by Dr Conquest.
Soon.	...	Recovered.	Dead.	Communicated by Dr Ingleby.
Quickly.	Head.	Recovered.	Alive.	Communicated by Mr Rose.
...	...	Recovered.	...	Med. Chir. Review, vol. III., p. 317.
5 minutes.	Head.	Recovered.	Alive.	Communicated by Dr Smith, Glasgow.
4 minutes.	Head.	Recovered.	Dead.	Lond. Med. Repository, vol. VI., p. 412.
3 minutes.	...	Recovered.	Alive.	Francis's Edition of Denman, p. 485.
Less than 2 minutes.	Head.	Recovered.	Alive.	Communicated by Dr Wilson.

DIVISION.

BEFORE THE CHILD, OR BOTH WERE EXPELLED TOGETHER.

Almost immediately.	Breech.	Recovered.	Dead.	Communicated by Dr Dawson, Newcastle.
Together.	Head.	Recovered.	Alive.	Communicated by Mr Campbell.
Turned immediately.	Head.	Recovered.	Alive.	Communicated by Dr Currie, Lanark.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Dawson, Newcastle.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Immediately.	...	Recovered.	Alive.	Midwifery, vol. II., p. 310.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Stewart.
Immediately.	...	Recovered.	Dead.	Communicated by Dr Dawson, Newcastle.
Immediately.	Head.	Died.	Dead.	Communicated by Dr Radford.
Immediately.	Head.	Recovered.	Dead.	Communicated by Dr Radford.
Immediately.	...	Recovered.	...	Communicated by Dr Young.
Almost at same time.	Head.	Recovered.	Alive.	Communicated by Dr Currie.
Almost at same time.	Head.	Recovered.	Alive.	Communicated by Dr Carruthers.
Not many moments.	Head.	Recovered.	Dead.	Communicated by Dr Ramsbotham.

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six inches from the child's navel. A great effusion of blood followed, and the woman fainted ere she could be laid down on the bed."

58, 59, 73. "In these three cases, the placenta was detached, in introducing the hand to turn, and lay in the vagina, till the feet were brought down." Dr Smith's note.

60. See case at length, in Section VI.

62. See case at length, in Section VI.

64. Active hemorrhage had taken place before Dr C.'s arrival. "On examination, the pelvis was filled with coagula, and something like placenta. Another pain expelled an uninterrupted ovum, which was instantly ruptured, but the child was dead."

68. The placenta was born along with the head; but Dr M. was sensible of its being wholly detached, and lying in the vagina for fully five minutes.

70. Though not actually stated, it is clear, from the context, that the woman here, and in Case 143, recovered.

71. When Mr W. saw the woman, there was a little hemorrhage, but not so much as to cause any alarm, either for the mother or child. The pains were strong and downbearing, and in about twenty minutes the placenta was expelled. The next pain expelled the child.

72. The placenta was detached to some extent, when Mr G. was called in. He immediately separated the remainder and removed it.

78, 91, 92. The fact is not stated, but it is manifest, from the context, that the mothers recovered.

(THIRD DIVISION

	By whom observed or reported.	No. of the pregnancy.	Period of delivery.	Degree of hemorrhage *before* the entire separation of the placenta.	Degree of hemorrhage *after* the entire separation of the placenta.	Mode of delivery of the child.
87	Dr Brownlee, Shotts.	6th or 7th.	...	...	...	By natural pains.
88	Dr Conquest, London.	...	9th month.	Violent.	...	By natural pains.
89	Dr Dawson, Bathgate.	7th.	8th ,,	Profuse.	...	By natural pains.
90	Professor Murphy, Lond.	Not a 1st.	9th ,,	Moderate.	...	By natural pains.
91	Dr Smellie.	2d.	8th ,,	...	...	By natural pains.
92	Dr Smellie.	...	8th ,,	Profuse.	...	By natural pains.
93	Anonymous.	...	...	...	...	By natural pains.
94	Gendrin.	...	...	Very great.	...	By natural pains.
95	Mr Easton, Glasgow.	...	9th month.	Considerable.	...	By natural pains.
96	Mr Easton. ,,	...	9th ,,	Considerable.	...	By natural pains.
97	Dr F. Ramsbotham.	Several.	8th, 9th ,,	Exhausting.	...	Turning.
98	Mr Rose, Swaffham.	4th.	9th ,,	Considerable.	...	By natural pains.
99	Mr Rae, Edinburgh.	4th.	9th ,,	Considerable.	...	By natural pains.
100	Schweighauser, Strasburg.	...	...	...	...	...
101	Dr Robert Lee.	...	7th ,,	Considerable.	...	...

FOURTH

CASES IN WHICH THE EXACT PERIOD BETWEEN THE SEPARATION

102	Mr Bailey, Thetford.	4th.	9th ,,	Profuse.	Profuse.	Turning.
103	Mr Bull.	6th	...	Most alarming.	...	Turning.
104	Cauviere.	...	...	...	None.	Forceps.
105	Dr Clarke.	...	...	...	...	...
106	Dr Hamilton, Edinburgh.	...	...	...	None.	...
107	Dr Hamilton, do.	...	...	...	None.	...
108	Labayle, Montpellier.	...	...	...	...	...
109	Romaine, Bagneres.	...	...	...	...	...
110	Lamotte.	...	...	Severe.	Considerable.	Turning.
111	Dr Robert Lee, London.	...	7th month.	Profuse.	...	...
112	Leroux.	...	7th ,,	Great.	Much diminished	Decapitation.
113	Dr Löwenhart.	...	...	...	...	Turning.
114	Dr Maunsell, Dublin.	...	...	Profuse.	...	By natural pains.
115	Mr Milligen.	...	...	...	...	By natural pains.
116	Sir F. Ould.	...	...	Profuse.	...	Turning.
117	Pardigon.	...	7th month.	Almost none.	None.	Turning.
118	Dr F. Ramsbotham.	...	...	Copious.	Little.	Turning.
119	Dr J. Ramsbotham.	...	...	...	Little or none.	...
120	Dr J. Ramsbotham.	...	...	...	Entirely ceased.	...
121	Mr Elkington, Birmingh.	8th month.	...	...	...	...
122	Dr Cahill, Berwick.	...	6th and 7th.	...	...	...
123	Mr Hardcastle, Newcastle.	...	...	Very great.	Not much.	By natural pains.
124	Dr Moody, St Andrews.	...	...	...	...	Turning.
125	Dr Mather, Brechin.	...	...	Not great.	...	By natural pains.
126	Dr Nimmo, senior.	...	...	Severe.	...	...
127	Mr Rose, Swaffham.	7th month	9th month	Moderate.	None.	Naturally.
128	Dr Wilson, Glasgow.	Large fam.	...	Profuse.	Profuse.	Turning.
129	Dr Wilson, Glasgow.	...	...	Profuse.	Profuse.	Turning.
130	F. Osiander. Gottingen.	...	7th month.	...	...	Naturally.
131	F. Osiander, ,,	...	4th ,,	...	...	Naturally.
132	F. Osiander, ,,	...	7th ,,	...	...	Turning.
133	F. Osiander, ,,	9th month.	9th ,,	Vio'ent.	None.	Naturally.
134	Dr Trefurt, Gottingen.	...	3d ,,	Very great.	...	Turning.
135	Kong.	...	...	...	...	...
136	Loss, Dorchester.	...	Large family.	...	...	...
137	Giffard.	7th month.	...	Violent.	...	Turning.
138	Mercier.	...	...	None.	Almost none.	Turning.
139	Amand.	...	...	Profuse.	...	Turning.
140	Dr Tennant, Falkirk.	2d.	9th month.	Severe.	...	Forceps.
141	Dr Morrison, Dalkeith.	Several.	...	Severe.	None.	By natural pains.

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88. On endeavouring to turn, "the os became so much irritated by the attempt to introduce the hand, that the organ forcibly contracted, expelling the hand, placenta, and child, and an almost incredible quantity of blood."
94. The hemorrhage ceased on the waters being allowed to escape by a female catheter, passed through the placenta, four hours before the birth of the infant, which was expelled with the placenta, before its covering the head. Slight hemorrhage followed the delivery.
95. In this case, the placenta, though born along with the head of the child, was detached from the uterus about an hour. There was no hemorrhage from the time it was separated.
96. The placenta was born with the body of the child, but it had been detached for some hours.
97. The placenta passed, during the extraction of the child, before the breech.
99. I saw the woman a fortnight after delivery carrying her child, and well.—J. Y. S.
101. See Sect. V.
103. The arm was found to present after the expulsion of the placenta, and turning was then had recourse to. There is no word of hemorrhage after the placenta was expelled.
104. "Professor Cauviere has told me, that in one case where he introduced the forceps, for inertia of the uterus, when the head was in the pelvis, he was quite astonished to see the placenta pass out of the vagina, before the child, without the slightest hemorrhage."—*Pardigon's Essay.*
108-109. "It may happen," says Labayle, "that the placenta, though attached by its centre to the os, is pushed out before the head of the child, and the labour terminates in the most happy manner. I have myself wit-

—*Continued.*)

Time between the birth of placenta and birth of the child.	Presentation of the child.	Results. To mother.	Results. To child.	Where reported, or by whom communicated.
One pain.	Head.	Recovered.	Alive.	Communicated by Dr Wilson, Whitburn.
One pain.	...	Recovered.	Alive.	Communicated by Dr Conquest.
One pain.	Arm.	Recovered.	Dead.	Communicated by Dr Dawson.
One pain.	...	Recovered.	Dead.	Communicated by Dr Murphy.
One pain.	...	Recovered.	Dead.	Cases in Midwifery, vol. II., p. 311.
One pain.	...	Recovered.	...	Cases in Midwifery, vol. II., p. 313.
Same pain.	...	Recovered.	...	Medico-Chirurg. Review, vol. III., p.
Together.	...	Recovered.	Alive.	Médecine Prâtique, tom. II., p. 349.
Together.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Together.	Head.	Recovered.	Dead.	Communicated by Dr Smith, Glasgow.
Together.	Head.	Recovered.	Alive.	Communicated by Dr Ramsbotham.
Together.	Head.	Recovered.	Alive.	Communicated by Mr Rose.
Together.	Head.	Recovered.	Alive.	Communicated by Dr Campbell, Edinburgh.
Together.	...	...	...	Pratique des Accouchemens, p. 224.
...	...	Recovered.	...	Clinical Midwifery, p. 148, Case 269.

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OF PLACENTA AND THE BIRTH OF CHILD NOT KNOWN.

...	Head.	Recovered.	Alive.	London Med. Repos., vol. XVI., p. 451.
...	Arm.	Recovered.	Dead.	Medical Gazette, vol. XIX., p. 622.
...	...	...	...	Pardigon de l'Insertion du Placenta.
...	...	Died.	...	Collins's Midwifery, p. 91.
...	...	Recovered.	...	Notes of Lectures and Obs., p. 313.
...	...	Recovered.	...	Notes of Lectures and Pract. Obs., p. 313.
...	...	Recovered.	...	Essai sur l'Hém. Uter., Montpellier, 1827.
...	...	Recovered.	...	
...	...	Recovered.	Alive.	Traité des Accouchemens, p. 405.
...	...	Recovered.	Dead.	Clinical Midwifery, p. 144, Case 263.
...		Recovered.	Dead.	Leroux, sur les Pertes du Sang, p. 262.
...	Arm.	Recovered.	Dead.	{ Neue Zeitschrift für Geburtsk., bd. VII, h. 3. See Kleinert's Rep., 1842, VI., p 58.
...	Arm.			
...	Head.	Recovered.	...	Dublin Journal, vol. V., p. 373.
...	...	Recovered.	Alive.	Lancet, vol. I., 1831, 1832. p. 232.
...	Head.	Recovered.	Alive.	Ould's Midwifery, p. 77.
...	Shoulder.	Recovered.	...	De l'Insertion du Placente a l'Orifice Uter.
...	Head.	Recovered.	...	Pract. Obs., vol. II., p. 232.
...	..	Recovered.	...	Pract. Obs., vol. II., p. 235.
...	...	Recovered.	...	Pract. Obs., vol. II., p 235.
...	...	Recovered.	Dead.	Communicated by Dr Ingleby.
...	...	Recovered.	Dead.	Communicated by Dr Cahill.
...	Head.	Recovered.	Dead.	Communicated by Dr Dawson.
...	...	Recovered.	Breathed.	Communicated by Dr Smith, St Andrews.
...	...	Recovered.	Alive.	Communicated by Mr Binning, Arbroath.
...	...	Recovered.	Alive.	Communicated by Dr Keiller, Dundee.
...	Head.	Recovered.	Alive.	Communicated by Mr Rose.
...	...	Recovered.	Dead.	Communicated by Dr Wilson.
...	...	Recovered.	Dead.	Communicated by Dr Wilson.
...	Head.	Recovered.	Dead.	{ Kleinert's Repertorium, 1832. April Number, t. 24.
...	Shoulder.	Recovered.	Dead.	
...	Head.	Recovered.	Dead.	
...	Head.	Recovered.	Putrid.	
...	Shoulder.	Recovered.	...	{ Hannoversche Annalen, Sept. 1841. Vid. Neue Zeitschrift. fur Geburtskunde, 1843, p. 121.
...	...	Recovered.	...	
...	...	Recovered.	Alive.	Observationes Medicinales, Lond. 1672, p. 380.
...	Arm.	Died.	...	Cases in Midwifery, p. 516.
...	...	Died.	Dead.	Journal Gén. de Médecine, tom. 45, p. 305.
...	Head and arm.	Recovered.	Dead.	Observations sur la Pratique, &c., p. 336.
...	Head.	Recovered.	Dead.	Communicated by Dr Tennant.
...	Head.	Recovered.	Dead.	Communicated by Dr Morrison.

REMARKS.

nessed such a fact; and M. Romain, Professor of Midwifery at Bagneres, has communicated to me also an observation of this kind."

111. Dr Lee found the placenta protruding through the orifice of the vagina. He immediately extracted it, and a dead child followed.

101. In this case, the placenta was protruding at the os uteri; on drawing it forward gently, the whole ovum escaped without rupture of the membranes.

113. A midwife had separated the placenta which presented, and drawn it out of the external parts.

119, 120. I am kindly informed by Dr Ramsbotham that he knows "one of the mothers recovered, and he believes the other also."

128, 129. See Section V.

137. See Case in Section VI.

138. See case in Section VI.

SECTION IV.—GENERAL DEDUCTIONS REGARDING THE PRECEDING 141 CASES.—1. NUMBER OF THE PREGNANCY.—2. PERIOD OF DELIVERY.—3. MODES OF PRESENTATION OF THE CHILD.—4. MODES OF DELIVERY.—5. NUMBER OF CHILDREN LOST AND SAVED.

We shall now attempt to state in a generalized form some of the more important points deducible from the consideration and examination of the preceding table. Before doing so, however, I would take this opportunity of remarking, that the total separation and expulsion of the placenta before the infant, does not seem to be so very rare and uncommon a circumstance as medical men generally believe, and as authors allege it to be. Dr Collins states, that it is "extremely rare to meet with a total separation of the placenta in unavoidable hemorrhage."[1] In reporting Mr Denny's case, (*Table, No.* 63) Mr Gower observes, "it is perhaps a solitary instance in the annals of obstetric practice. The placenta was brought into the world before the child. The uterus closed upon the body of the fœtus so as to prevent hemorrhage, and after another pain the child was born alive. It was a quick labour, and no ill effects followed from an accident from which disastrous consequences might have been reasonably apprehended to both mother and child. Perhaps (adds Mr Gower) there is no other such case on record, and it merits notice, as an example of the competency of nature to provide for extraordinary emergencies."[2]

The number of cases included within the preceding tables, shows the entire separation of the placenta in placental presentations to be by no means so rare as these and other authors seem to suppose. I have no doubt that the records of medicine contain more cases than I have had leisure or opportunity of searching out; and I feel assured that a more extensive and industrious inquiry at private practitioners than I have been able to institute, might have brought to light a considerable number of additional instances.

1. *Number of the Pregnancy in the cases included in the Table.*—In 81 cases the number of the pregnancy is stated, or facts mentioned, so as to enable us to infer whether the patient had previously born a family or not.

In 12 cases	the mother had	"several"	children previously.
In 4	„	„	"a large family" „
In 1 case	it was the		15th pregnancy,
In 1	„	„	12th „
In 3	„	„	10th „
In 5	„	„	9th „
In 2	„	„	8th „
In 8	„	„	7th „
In 6	„	„	6th „

Carry forward, 43

[1] Treatise on Midwifery, p. 90.

[2] Lancet for 1831–32, vol. i. p. 119.

Brought forward, 43

In 6	cases it was the	5th	pregnancy.
In 9	„ „	4th	„
In 10	„ „	3d	„
In 5	„ „	2d	„
In 8	„ „	1st	„
Total, 81			

2. *Periods of utero-gestation at which the patients were delivered.*—In 89 cases out of the 141 the requisite information is supplied on this point. The result is as follows:—

Before the 6th month . . .	3	were delivered.
From the 6th to 7th month . .	5	„
From the 7th to 8th month . .	19	„
From the 8th to 9th month .	19	„
From the 9th to full time . . .	43	„
Total .	89	cases.

The preceding data are so far corroborative of the well-known fact, that in placental presentations the labour is very frequently premature. In 28 of his 42 cases of *placenta prævia*, Dr Rigby mentions the date at which labour came on. In 13 of the 28 the labour was more or less premature; in 15 the women are said to have reached the full term of pregnancy. Dr Lee has reported[1] 36 cases of unavoidable hemorrhage; in 3 instances he does not state the date of the labour; in 2 only had the women reached their full time; and in the remaining 31 patients, the labour was premature. Levret discusses at some length the question, "why some of the women who have the placenta implanted upon the cervix uteri arrive at the full time, and why the greater part (*la plupart*) of those who are in the same condition do not reach that period."[2]

3. *Modes of Presentation of the Child.*—This is specified in 90 cases.

In 4	cases	the feet presented.
In 6	„	breech presented.
In 21	„	trunk or upper extremity presented.
In 59	„	head presented.

In 4 of the head cases (Tables, No. 8, 14, 10, and 139,) an arm presented along with the head.

In the above, as in all other statistical returns, referring to the presentation of the child in cases of placenta prævia, the number of preternatural presentations, and particularly of cross-births, is remarkable.

4. *Modes of Delivery of the Child.*—The means by which the children were ultimately delivered have varied greatly according to the peculiarities arising from the presentation, and the supposed necessity or non-necessity of direct instrumental or other interference.

[1] Clinical Midwifery, p. 142, &c. [2] L'Art des Accouchemens. Paris 1771, p. 367.

In	1	case the child was delivered by the		Long forceps.
In	3	„	„	Short forceps.
In	1	„	„	Evisceration.
In	2	„	„	Decapitation.
In	3	„	„	Simple traction.
In	40	„	„	Turning.
In	66	„	„	Natural pains.
Total	116			

In the remaining 25 cases the manner of delivery is not specified.

5. *Number of Children Lost and Saved.*—In 113 instances in the Table, the result as regards the life or death of the child is stated. In 1 (No. 10) of the 113 cases it was malformed (anencephalous) and incapable of sustaining extra-uterine life, and in 6 others it was putrid or had died before labour commenced. The following statement shows the result as respects the remaining 106 cases :—

In 73 cases the infant was born *dead.*
In 33 „ the infant was born *alive.*

According to these data, nearly 1 out of every 3 children survived ;—or 31 per cent of the children were saved, and 69 per cent of them were lost. I shall have again occasion to recur to this topic in the sequel of the memoir.

SECTION V.—DEGREE OF HEMORRHAGE BEFORE THE SEPARATION OF THE PLACENTA, ITS ABSENCE THE EXCEPTION TO THE RULE: DEGREE OF HEMORRHAGE AFTER THE COMPLETE SEPARATION OF THE PLACENTA, ITS PRESENCE THE EXCEPTION TO THE RULE: PROPORTION OF CASES: NO RELATION BETWEEN THE EXTENT OF THE HEMORRHAGE AND THE DURATION OF INTERVAL BETWEEN THE DETACHMENT OF THE PLACENTA AND THE BIRTH OF THE CHILD.

Out of the 141 cases included in the preceding Table, (Sect. III.) we have returns in 111 instances regarding the extent of the hemorrhage that was present previously to the perfect detachment and expulsion of the placenta. The preceding flooding is reported as

Great	in 72	cases.
Considerable	in 24	„
Slight	in 8	„
Little or none	in 7	„
Total	111	

The seven cases in which there occurred little or no hemorrhage during and anterior to the disjunction of the placenta, are those entered in the Table as No. 5, 11, 14, 28, 34, 117, and 138. Mercier has devoted a special essay[1] to the consideration of such exceptional instances to the general rule of flooding occurring as an " unavoid-

[1] " Les Accouchemens ou le Placenta se trouve opposé, sur le col de la matrice, sont-ils constamment accompagnés de l'hemorrhagie?" *Journal de Médecine* vol. xlv. p. 305.

able" symptom in placental presentations. "The hemorrhage," observes Caseaux,[1] "which they have generally considered as *inevitable* in these cases, (placental presentations), may, however, not show itself even during the progress of labour, and the dilatation of the cervix uteri may be effected without there escaping one drop of blood." Caseaux afterwards adverts to the opinions which Walter, Moreau, and others have offered in explanation of this exception. (See also Velpeau's *Traité Complet des Accouchemens*, vol. i. p. 356, and vol. ii. p. 81.) The most rational idea seems to be, that in such cases the child has been dead for some time, and the utero-placental circulation in consequence arrested previously to the supervention of parturition.

But in relation to the objects of our essay, it is a much more interesting and important subject for us to inquire into the degree of hemorrhage *after*—than the degree of hemorrhage *before* the complete separation of the placenta.

"The great and excessive losses of blood (states Mauriceau, in one of his aphorisms),[2] which happen sometimes to the pregnant woman, proceed almost always from the detachment in *whole* or in part of the after-birth from the uterus; and these kinds of losses of blood never cease entirely till the female is delivered."

In criticising this aphorism Levret observes,—"The first part of this statement is, in general, but too true, but the second part is not so constant as Mauriceau gives it. For the daily practice of accoucheurs shows, that there are occasionally women attacked with great hemorrhage, in consequence of partial separation of the placenta, who nevertheless arrive at the natural period of delivery; thus the word *never* is too positive, as it does not allow of any exception, and it can only apply to those cases in which the separation of the placenta is *complete*, and not to those where it is only partially detached."[3]

Levret elsewhere[4] remarks, in his essay on placenta prævia,—"Daily practice teaches us that the placenta is never detached spontaneously, without the contraction of the part where it was affixed, and without the detachment of this vascular mass, whether *complete* or partial—being followed by discharge of blood."

The allegations made by Mauriceau and Levret, regarding the continuance of hemorrhage after *total* separation of the placenta, (and I might quote similar averments, if necessary, from later authors), are perhaps such as the mind might be inclined to draw from reasoning upon the subject of complete detachment of the mass. But if we turn from theory to fact—and from preconceived opinions to careful observations, we shall find the above statements perfectly and directly contradicted by the results of practical expe-

[1] Traité de l'Art des Accouchemens, 1841, p. 559.
[2] Traité des Maladies des Femmes Grosses, &c., tom. i. p. 534, aphor. 44.
[3] L' Art des Accouchemens, &c., p. 395. [4] Loc. cit., p. 347.

rience. For I believe that the data which I have collected for the present paper, are amply sufficient to establish as a great physiological and practical fact—that when the placenta, in cases of unavoidable hemorrhage, is once *completely* detached from its connections with the interior of the uterus, the accompanying flooding in general entirely ceases, or becomes quite moderate and inconsiderable in quantity. The cases adduced in the Table, Sect. III., afford the strongest possible evidence in favour of the truth of this important principle. A slight analysis of them, in reference to this point, will sufficiently demonstrate our proposition.

From the nature of the *third* Division of the Table of cases, including, as it does, those instances in which the expulsion of the placenta was immediately, or almost immediately, followed by the birth of the infant, we can, from this section of our data, expect few or no decided returns in reference to the degree of hemorrhage existing after the total detachment of the placental mass. In the two or three cases, however, of this division, in which the complete detachment of the organ occurred some time before its complete expulsion—the attendant hemorrhage was observed immediately to cease. Thus, in reference to two instances, (Cases No. 95, 96,) which occurred in the practice of Mr Easton of Glasgow, it is stated in the notes of them with which I have been favoured, that though in both the placenta was only expelled immediately before the child, yet it had been previously separated,—in one above an hour—and in the other, for several hours, and in neither of the mothers did any hemorrhage occur after the placentæ were wholly detached from the uterine surface. In both instances the placentæ were originally affixed close to the os uteri—but not over it —and were detached early in the labour.

In the 111 remaining instances, the facts in regard to the existence or non-existence of hæmorrhage during the interval between the detachment or expulsion of the placenta and the birth of the child, stand as follows :—In 39 out of the 111 cases, the absence or presence of hemorrhage after the expulsion of the placenta, is not stated or alluded to by the reporters; but it is evident, from the other circumstances which they describe, that in most of these cases there could have been no serious, if, indeed, any extent of flooding, because the woman was allowed to remain undelivered, in many of them, for a considerable time after the placenta was separated—a state of matters which would not have been permitted if there had been any degree of discharge calling for the immediate delivery of the patient. Three out of these 39 mothers died—one from puerperal fever (see Table, No. 4); a second, (No. 137), apparently from post-partum hemorrhage;—the cause of death in the other case, (No. 104), is not stated.

In 70 of the 110 cases, the existence and degree of hemorrhage, after the complete separation of the placenta, is distinctly stated, and may be tabulated as follows :—

In 44	cases	the hemorrhage	was completely arrested.
„ 10	„	„	was very slight, or almost none.
„ 7	„	„	was inconsiderable.
„ 1	„	„	soon ceased.
„ 1	„	„	was much diminished.
„ 1	„	„	was considerable.
„ 1	„	„	was "a good deal."
„ 5	„	„	was profuse.
Total, 70			

It thus appears, that after the complete detachment of the placenta, the hemorrhage was totally arrested in a large majority of the cases; that it was not alarming in its extent in a great proportion of the remaining instances; and that in 5 only out of the 70—or rather in 5 only out of the 111 labours, did it continue so profuse under the circumstances, as to be considered alarming by the attendant, or in such excess as to require special notice in their reports.

Hence in one only out of every 22 labours does there appear to have been a continuance of hemorrhage to a great or profuse degree after the placenta was detached. One of the five mothers died (see Dr Fraser's case in Section vi.) The other four all recovered.

But it may be proper to consider more at length the five cases in which the hemorrhage is stated to have gone on to a profuse extent after the separation of the placenta, in order to judge better of the circumstances which may lead to its continuance in other instances.

First of all, however, it seems necessary to remark, in regard to the alleged continuance of the hemorrhage after the entire separation of the placenta, that the observation itself—simple and easy as it may appear—is one which is most undoubtedly liable to several sources of fallacy. Some of the authors who have described cases of the expulsion of the placenta before the child, and not a few of the medical gentlemen who have communicated to me instances of the kind, have expressed the surprise which they felt at the flooding suddenly ceasing upon the separation of the placental mass, in contradiction to what their pre-conceived opinions led them to expect. Any degree of incaution in the observation of the case might thus easily lead the medical attendant to suppose, that the blood effused externally, or lying in the vagina, was the result of the *continuance* of the hemorrhage subsequently to the total disjunction of the placenta, whilst in reality it might have been the result of the degree of flooding existing antecedently to that event, that is, whilst the placenta was still only partially detached. The blood *already* discharged might, in other words, be readily mistaken for blood in the act of *being* discharged. I am the more inclined to insist upon this source of error, in consequence of the strong fact, that out of all the first division of cases in our Table—forty-seven in number—and where

there was a *long* interval between the expulsion of the placenta and the birth of the child, and, consequently, ample time allowed to confirm or correct any observation upon the degree of existing hemorrhage, in not one single instance is the flooding after the complete placental detachment alleged to have been profuse, or even considerable in its extent. Again, if there had been going on any internal accumulation of blood in the uterine cavity, or rather between the membranes and the uterus, during the period of the *partial* separation of the placenta, and before its complete detachment, the escape of this blood after the expulsion of the placenta might lead to the same error. Another occasional source of fallacy may consist in this, that the membranes may become ruptured by the same pain which expels the placenta through the os uteri or vagina, or they may burst during a subsequent uterine contraction, and the sudden gush of escaping liquor amnii, when mixed up with the effused blood, might be readily mistaken for a pure hemorrhagic discharge.

Of the five cases in which the hemorrhage is alleged to have continued to a considerable or great degree after the detachment of the placenta, one affords an illustration of this last remark. I quote it from La Motte.

Case of hemorrhage, with the placenta expelled from the vagina; excessive discharge; turning; infant and mother recovered.—La Motte was summoned to a woman who had been in labour from the previous day, and who had been losing blood for about two hours. "I went immediately," to adopt his own narrative, "though it was a good league (*grande lieuë*) out of town. As I entered the court, several women came out with frightful shrieks, indicating to me, better than they could tell me, the extreme danger of my poor patient. I instantly descended from my horse, and hurried to where she was. I found that the after-birth had just been pushed out of the vagina by the last pain, and the discharge of blood had come in such abundance, as to have imparted that terrible fright to the bystanders, that had made them utter this piercing cry. I hastened to pull away the after-birth, glided my hand into the uterus, seized the feet of the infant, drew them into the passage, and accomplished the delivery in an instant. The infant was sufficiently alive to be baptized, but died soon after. The mother recovered in a sufficiently brief period, notwithstanding the fearful loss of blood." In some remarks which La Motte offers upon this case, he observes, that he judged the membranes in this case to have been entire from the surprising evacuation that followed the placenta when he drew it out, and which could not have been all blood, as it came away with much greater violence than it did previously, and the woman could not have borne the loss of such a quantity of blood without sinking. "But I am persuaded," he adds, "that the

waters escaping from the membranes in which they were contained, became mixed with the blood effused from the vessels, the midwife having informed me, that the waters were ready to burst when the accident (the expulsion of the placenta) happened, and they flowed out from my tearing the bag, in separating the placenta."

In the above case of La Motte's, the evidence of a continuance of true hemorrhage after the detachment of the placenta is by no means decisive, but we have placed it in that category, in order to avoid the fear of error. The continuance of hemorrhage under the same circumstances is probably better marked in the four following cases. For the two first I am indebted to Dr Wilson of Glasgow, in whose practice they occurred. I shall give them in his own words.

Case of expulsion of placenta; hemorrhage; turning.—"*May* 7, 1821. Mrs G., the mother of a large family, was seized, near the termination of pregnancy, with profuse flooding. Dr M. was sent for. He found the placenta presenting; it very soon came away, the discharge continuing. I was called in, and such was the profusion of the discharge, and state of exhaustion, that turning was instantly resorted to. The child was dead—there was no discharge after delivery. The recovery was tedious, but at length complete." —*See Case No.* 128 *in the Table.*

Case of the placenta lying with its fœtal *surface over the os uteri; hemorrhage; turning.*—"*April* 17, 1833. This evening I was sent for by Dr Cunningham to see Mrs ——, Portugal Street, who was, and had been flooding for several hours. The placenta was found lying loose over the os uteri, with the *fœtal surface downward;* the finger at once touched the origin of the umbilical cord. The placenta was turned aside, the feet laid hold of, and a dead child extracted. She made a good recovery."—*See Case No.* 129 *in the Table.*

This last case is, as far as I know, unique in the circumstance of the placenta being found quite inverted over the os uteri, or with its fœtal, instead of its maternal surface lying in contact with that part. It may probably so far be regarded as a proof that in this instance there was a cause for the hemorrhage continuing in a most unusual and extreme degree of atony, or relaxation of the uterus, —a state which would seem necessary in order to admit of the possibility of the inversion of the placental mass. In the two following cases of Mr Barlow and Mr Bailey, we have the hemorrhage persisting under different conditions, viz., the patient being in the upright posture at the moment of the separation and expulsion of the placenta; and besides, having in the first of them that disposition of the uterus, (whatever its special nature may be,) which gives rise to post-partum hemorrhage.

Case of expulsion of the placenta preceding the delivery of the child; hemorrhage both after the expulsion and delivery.—A woman in the last month of her second pregnancy, suffered from uterine pains and a slight discharge of blood at intervals. The hemorrhage ceased when the horizontal position, &c. were adopted. Next morning Mr Barlow was summoned to see her, and found her sitting on a chair in a state of great alarm; a profuse discharge of blood succeeded every pain. "On requesting her," he continues, "to be conveyed to bed, she attempted to walk up stairs, and before she could reach the bed, a violent pain seized her, which instantly expelled the placenta, and disparted the funis about six inches from the child's navel. A great effusion of blood followed, and the woman fainted ere she could be laid down on the bed." Dr Barlow passed up his hand into the uterus, found the os uteri in a lax and dilated state, with the shoulder presenting, laid hold of the feet, and accomplished the delivery of the child, by turning, in a few minutes. "The child appeared feeble, but soon recovered on being placed in a warm bath. A considerable hemorrhage," he adds, "followed the birth, on perceiving which I returned my hand into the uterus, and by keeping it moving therein for a time, its contractions were renewed, and the hand was then withdrawn, and the flooding abated, and though the woman appeared much reduced through the loss of blood, she soon recovered.—*See Case No.* 56 *in the Table.*

Case of unavoidable hemorrhage supervening during exertion; sudden expulsion of the placenta; turning; mother and child saved.—The case occurred to Mr Bailey of Thetford. A woman, aged 32, three weeks before the time of her expected fourth confinement, when exerting herself by washing, &c., was seized with a sudden and violent flooding, accompanied by an extreme degree of bearing down, which, to make use of her own expression, felt "as if the head of the child was in the birth." In the act of stepping upon the bed, she was taken with a pain, during which the placenta was forcibly expelled, and was suspended between the thighs by the funis. At this moment a deluge of blood followed; and she sunk down senseless upon the bed, to all appearance dead, the pulse being imperceptible, and the skin covered with a cold clammy sweat. The os uteri was found to be completely dilated, the passages were well relaxed, and the head presented in the first position. Turning was adopted, and easily accomplished. During the operation, "the hemorrhage was alarming, and large coagula were present in the uterus, which were expelled as soon as the child was born. When the uterus was excited to contraction, the hemorrhage ceased. The child at first appeared to be still-born, but was restored by the proper means. Both the mother and the infant did well.—*See General Table, No.* 102.

In relation to the two last cases of alleged hemorrhage after the

placenta was totally separated, it deserves to be specially held in view that, as already alluded to, in both cases the patients at the time at which the placenta was detached, were in the upright position,—a circumstance which is well known to be a very certain cause of post-partum hemorrhage when there is any tendency to that condition;—in both patients the cervix uteri was very relaxed, the introduction of the hand in the operation of turning being performed with great ease;—in both, the *complete* separation of the placenta must have occurred a very short time before delivery, as each of the children was born alive;—and in the last patient (Mr Bailey's) the discharge of blood which took place after the expulsion of the placenta, must have been to some extent the result of a *previous* internal accumulation occurring during the partial separation of the placental mass, as the blood itself had had time to coagulate. This internal hemorrhage and accumulation of blood probably occurred also in the remaining case upon our list of hemorrhage after the complete separation. For the details of it, see Dr Fraser's case in the next section, and the remarks upon it.

That the extent of the hemorrhage has no direct relation to the extent of the interval between the expulsion of the placenta and the delivery of the child, is amply attested by the following facts:—All the reputed instances of hemorrhage after the complete detachment of the placenta, have occurred in cases where the interval between the birth of the placenta and of the child, was short or uncertain; or, in other words, among the patients included in the Second and Fourth Divisions of the General Table. Among the cases belonging to the First Division of the Table, in which the interval between the detachment of the placenta and the delivery of the child was longer, and varied from ten minutes to ten hours, and where, consequently, there was more time to observe any degree of flooding that might exist, *in not a single instance, was the hemorrhage observed to be great, or even considerable in extent.* On the contrary, in one only of the forty-seven cases belonging to this division, was it in any unusual degree;[1] in nine, it is reported as "almost none," "trifling," or "slight," or "very slight;" and in twenty-three cases, it was totally and completely arrested. In nine the degree of it, if any, is not stated.

I shall have occasion to revert to the practical bearing and importance of these facts in a future section of the essay.

SECTION VI.—COMPARATIVE MORTALITY IN PLACENTA PRÆVIA FROM TURNING, &c., AND FROM EXPULSION OR EXTRACTION OF THE PLACENTA; TEN FATAL CASES AFTER SPONTANEOUS EXPULSION: DETAILS OF EACH CASE; SEVEN OF THEM INDEPENDENT OF THE SEPARATION OF THE PLACENTA: NATURE OF THE THREE REMAINING CASES.

In common cases of placental presentation we have already found,

[1] Case 43. The patient lost 8 lbs. of blood in three days, and "about a pound" after the expulsion of the placenta.

from ample statistical data, that the average mortality to the mother is about 1 to 3, (see Section I.) Among the 141 cases of expulsion and extraction of the placenta which we have collated into the Table, (Sect III.) 10 mothers died, or the average mortality to the mother was 1 in 14. The difference between the two sets of cases, namely, 1st, Those terminated according to the present recognised rules of midwifery; and, 2d, Those terminated by the spontaneous expulsion or retraction of the placenta,—is sufficiently striking when thus simply stated. The contrast may be more easily appreciated if we tabulate the results in the following manner:—

Mode of Management.	Number of Cases.	Number of Maternal Deaths.	Proportion of Maternal Deaths.
Cases treated by extracting the child before the placenta,—rupture of the membranes, &c.	399	134	1 in 3
Cases in which the placenta was expelled or removed before the child.	141	10	1 in 14

The evidence in favour of the safety of the termination of such cases by the expulsion or extraction of the placenta before the child, will become still more striking if we turn our attention specially to the ten fatal cases themselves; for we will find that the fatal result in few, if any of these cases, can be directly traced and ascribed to the circumstance of the placenta being completely separated, or to any possible consequence arising from that separation. An examination of these ten fatal cases in detail will sufficiently prove this remark.

Four of the ten mothers died several days subsequently to delivery. I shall first describe these four cases, as far as I have notes of them, so as to show more clearly the immediate cause of death in each.

Case of placenta prævia; placenta expelled an hour before the child; patient died on 10*th day, after having been up, and exposed to excitement and injury on the* 9*th.*—The case occurred in the practice of Mr Hay of Glasgow. It was a first pregnancy, and the patient had arrived at the full period. Before the separation of the placenta, the hemorrhage was excessive, and she was quite sunk and exhausted. Very little blood was lost after the placenta had come away, though the infant was not born for an hour. It was expelled by the natural pains, and was still-born. The following is Mr Hay's note on the case:—"This patient seemed to sink from excitement. She and her husband quarrelled on the 9th day after the birth of the child, and on the 10th she died." Dr Smith of Glasgow,[1] who has reported this, with various other cases to me,

[1] I am happy in having this opportunity of offering my best thanks to Dr Smith for the very great zeal and kindness with which he has assisted me in Glasgow, in the collection of cases for the present memoir.

states more explicitly, that "she left her bed and fought with her husband till perfectly exhausted, from which state she never recovered." (*See No.* 32 *in the Table.*)

The fatal result in this case does not require a word of comment; the fact of the woman being able to leave her bed, and to act in the way described, is sufficient proof that she was in a fair way of recovery, and that she would in all likelihood have done well, had it not been for her own indiscretion. In the instance which I have next to quote, the fatal event is also ascribed by the reporter to imprudence on the part of the patient, and, at all events, the degree of hemorrhage was such as in no way to endanger her life.

Case of spontaneous expulsion of the placenta; little or no hemorrhage either before or after its separation; death on the 7th day from "purpura alba."—"About 16 years ago I was called," says Walter,[1] "to the assistance of the wife of the former Castellano of the Royal Academy of Treptow. On arriving I found her in bed; labour had commenced at 4 A.M., seven hours before; the placenta was already separated, and had fallen to the ground; it was still attached to the infant by the cord. I was astonished at this very rare phenomenon, which at that time I could not explain, as I did not then understand the structure of the uterus as I now do. As it was a cross presentation, I had recourse to turning, and within a few moments I delivered the woman of a dead child. I can affirm most positively," the author adds, "that before my arrival, and during the labour, the woman did not lose above two ounces of blood. She did well till the third day, but an improper and contentious mode of living (*inordinata atque contentiosa vivendi ratio*) was the cause of her being seized with "*purpura alba*,"[2] of which she died on the 7th day after delivery." (*See No.* 9 *in the Table.*)

In two of the fatal cases the mothers died from puerperal fever, or peritonitis. These two instances have been recorded by Dr Merriman and M. Mercier, and I shall detail them as nearly as is consistent with brevity in the authors' own words.

Case in which the placenta was expelled long before the child, &c.—"I was once," Dr Merriman states, "consulted by a very careful and judicious practitioner, respecting a woman, who, when I first saw her, was rapidly sinking under puerperal fever. In this case the placenta was expelled many hours before the child was born,

[1] De Morbis Peritonæi et Apoplexia. Berlin, 1785, p. 33.

[2] Or "miliaria," a disease which, under the old "heating" method of treating puerperal women, was formerly extremely fatal. The Stockholm Academy proposed in 1769 as a prize question, "How the different kinds of miliary fever should be prevented and cured, as well in lying-in women as in others." The successful author, Schultz, showed strongly the necessity of adopting a cooling regimen. Dr Whyte's excellent Essay on Miliary Fever (Treatise on Lying-in Women, p. 25—55) did much to banish the disease from English practice.

and no extraordinary means were used to expedite the delivery of the child; a physician accoucheur, who was consulted upon the occasion, having deemed it more prudent to leave the case to nature. The fatal event, however," Dr Merriman unadvisedly adds, "would lead one to doubt whether it was wise, under such circumstances, to decline the interference of art."[1] (*See No. 4 in Table.*)

Case of placenta prævia; no hemorrhage with the first part of the labour; vomiting; fever; placenta spontaneously expelled; child delivered with forceps; mother died of peritonitis nine days after delivery.—For upwards of two days before Mercier saw the patient, she had been attended by a midwife, and latterly by a medical man who was called in during the course of the second day, and finding the woman feverish, had bled her largely. The bleeding had lessened the pains, which did not return till that evening. The patient had not suffered from any discharge of blood from the uterus, but she felt extremely uneasy; was not able to rest in bed; and rejected by vomiting every thing that was given to her. About two o'clock in the morning of the third day, while she was walking about with a person supporting her, a strong pain expelled the placenta, which fell to the ground, followed immediately by the escape of the waters. The embarrassment of the midwife was extreme. She divided, however, the cord, and waited the arrival of M. Mercier, whom she had immediately summoned. The pains again ceased, and the woman having been put to bed, got a little sleep. "The placenta," says M. Mercier, "was shown me, of a small size, and covered with dust. The cord was implanted in its middle, and about half a yard of it was attached. Only a few spoonfuls of blood had been lost in addition to the small quantity that had escaped from the cord when it was divided. In consequence of it being impossible to excite the uterus to sufficient action, it became necessary to terminate the labour by the forceps. This was accomplished easily. The child did not appear to be at the full time. Its extraction was followed with a very moderate effusion of blood, which scarcely penetrated a cloth folded four times. "This small quantity," observes Mercier, "joined to what had accompanied the falling of the placenta, did not exceed the loss of blood in ordinary labours." An hour after delivery, there was sanguinolent oozing which soon ceased. Subsequently, however, the woman was attacked with peritonitis, and died of this affection nine days after delivery.[2]—*See Table, No.* 138.

Besides the four instances of death which we have just described at periods more or less distant from delivery, two others of the ten fatal cases occurred within a very short time after the birth of the

[1] Synopsis of Difficult Parturition, p. 126.
[2] Journal Ancien de Médecine, tom. xlv.

infant, and a third (Dr Ramsbotham's) appears also to come under this head. Yet, as shall appear from the details which we will now give, the death in these cases was not apparently in consequence of any hemorrhage or other cause arising from the complete separation of the placenta, the hemorrhage in all of them having ceased when this separation took place. All the three mothers were delivered by operative means.

Case of severe hemorrhage and presentation of the arm; child eviscerated to permit delivery; placenta detached during the operation; no hemorrhage from its detachment; mother died.—The case occurred in the practice of Dr Ramsbotham, to whose kindness I am indebted for the following details. On December 24, 1839, Dr Ramsbotham was called to see Mrs E., who was gone $6\frac{1}{2}$ months in her second pregnancy. She was in a state of exhaustion from severe hemorrhage, having lost about two quarts of blood. "The previous attendant," to give Dr Ramsbotham's own words, "ruptured the membranes at 7 or 8 A.M., after which there was no further hemorrhage. The arm now came down, which he took off. I delivered her with great difficulty, owing to the undeveloped state of the cervix, at $4\frac{1}{2}$ P.M. I could not get the hand into the uterus, but managed to perforate the chest by a blunt hook, and to extract many of the viscera. In trying to perforate the chest, I hooked down the placenta, a part of which was hanging loose in the vagina; *still there was no flooding.*"—*See No.* 60 *in the Table.*

Case of profuse and exhausting hemorrhage, terminated by expulsion of the placenta; turning; immediate death.—The woman was a patient of Mr Wood's of Manchester. She had borne five children previously, and had reached the eighth month of her sixth pregnancy. The hemorrhage was very profuse previous to the expulsion of the placenta, and had caused great exhaustion; after this it completely ceased. Turning was immediately had recourse to, and a dead infant was extracted by the feet. She died immediately after her delivery.—*See No.* 81 *in the Table.*

Case of head presentation and unavoidable hemorrhage; placenta completely detached in the operation of turning; previous exhaustion; death.—The woman (a patient of Mr Tindal's of Glasgow) was at the end of her tenth pregnancy. The head of the child presented. There was fearful hemorrhage before the placenta was expelled, but none after. Delivery was effected by turning a few minutes after the escape of the placenta. The mother died in half-an-hour. "In this case," Dr Smith observes, in the note which I have received along with it, "the patient was exhausted previous to turning, and that operation was adopted to have delivery effected before she died. The placenta was accidentally separated during the course

of the operation, and Mr Tindal was perfectly certain that the hemorrhage ceased from that moment."—*See Case, No. 62 in the Table.*

In the three remaining cases of maternal deaths, the fatal occurrence took place during labour, or immediately subsequent to delivery. Of two of the three cases I have only very imperfect notes, which I give, such as they are, before offering any comment on them.

Case of "flooding, with one arm and part of the placenta slipped down below the os uteri internum;" turning; post-partum hemorrhage; death.—"October the 17th, 1731, about ten o'clock in the morning, Mr Giffard was sent for to the wife of a printer, near White Fryars; she had been seized," to use his own words, "about an hour before with a violent flooding, and when I came, I found she had lost a large quantity of blood; and I was told she was in about the seventh month of her reckoning. Upon touching, I found one arm of the child slipped out beyond the os internum, as also a large part of the placenta; wherefore, I gave it as my opinion, that she ought to be immediately delivered,—letting her husband and others know the great danger she was in. As it was entirely left to my conduct, I immediately passed up my hand, well greased, into the vagina, and so on by the side of the shoulder into the uterus, where I met with the remaining part of the placenta, wholly separated from the uterus. I now passed my hand between the placenta and the body of the child, and soon met with one foot, which I drew out beyond the labia pudendi, and then taking hold of it with a soft cloth, with a little difficulty, I brought out the hip and the body almost to the shoulders, when, finding it stopped at the head, I passed in my hand, and brought down one arm, the other not being slipped up again from its first falling down. I then endeavoured to draw out the head, but it would not readily follow; whereupon I passed up one finger into the child's mouth, and strove, by pressing upon the lower jaw, to bring the face forwards, whilst at the same time I pulled above at the shoulders; but as it was closely locked between the bones that form the lower part of the pelvis, I had no small trouble in bringing it out; however, at last, I finished the delivery by bringing away the placenta, which, being before loosened from every part of the uterus, readily followed. I was then in hopes we had surmounted our greatest difficulties, and that the flooding would have stopped; but, to my great surprise, she continued still draining. I therefore again gently passed up my hand, believing that either some part of the placenta was torn off and left, or else that some coagulated blood kept the womb distended; but I could not meet with any part of the placenta, or any clots of blood. I then ordered cloths dipped in vine-

gar to be applied close to the parts, and what else I thought necessary, yet, notwithstanding all my endeavours to save her, *amisit cum sanguine aitam.*—*See Table No.* 137.

Case of unavoidable hemorrhage, with apparent hydrothorax and cardiac disease; death speedily after the expulsion of the placenta; living child subsequently extracted.—The case occurred to Dr Fraser of Aberdeen. It was the patient's sixth pregnancy. Labour came on at the eighth month. Very moderate hemorrhage had been going on for two hours, when the placenta became very extensively detached by one uterine contraction, and the mass of it was found lying in the vagina. "The accompanying hemorrhage," Dr Fraser states, "was great, and, without convulsions, she expired in two minutes." A few minutes afterwards, Dr Fraser passed his hand into the uterus, and extracted the child alive. "A *post-mortem* examination," Dr Fraser adds, "was not allowed, but from a combination of marked symptoms, I have a strong conviction that she laboured under hydrothorax, depending on a diseased state of the heart."—*See Case No.* 49 *in the Table.*

Case of fatal detachment of the placenta.—In speaking of the complete separation of the placenta in unavoidable hemorrhage, Dr Collins states, "Dr Clarke informed me, that he had met with one case of total separation; the patient was dying before he reached the house."[1] By a private note from Dr Collins, I am informed that he knows no more of the case than what is stated in the above sentence, and that in consequence of Dr Clarke's death, it is now impossible to obtain more details.—*See Case* 104 *in the Table.*

General remarks on the ten fatal cases.—In all the first seven of the preceding fatal cases, the separation of the placenta, or the degree of hemorrhage after its detachment, had evidently little or no connection with the death of the mothers. In the first case, (Mr Hay's), the blood lost during the hour that elapsed between the expulsion of the placenta and birth of the child, is averred to have been "very little;" in the second case, (Walter's), not more than two ounces of blood escaped in all during the whole labour; in the third case, (Dr Merriman's), the hemorrhage after the expulsion of the placenta was, in all probability, inconsiderable, or altogether arrested, as it was not deemed necessary to expedite delivery, though the placenta was thrown off several hours before the infant was born; in the fourth case, the narrator (Mercier) distinctly attests, that the whole loss of blood was not greater than with an ordinary labour; in the fifth case, there was, to use Dr Ramsbotham's own expression, "no flooding" after the placenta was detached, and there had been none for some time previously; in the

[1] Repertorium for 1842, March Number, p. 78.

sixth case, (Mr Wood's), the hemorrhage completely ceased after the total separation of the placenta; and in the seventh case, (Mr Tindal's), the same fact was observed. In these two last cases, though both patients sunk principally from the effects of hemorrhage, yet in both of them that hemorrhage had occurred antecedently to the detachment of the placenta; the mischief, in so far as the flooding was concerned, was done before that detachment took place; in neither of them did the peculiarity of the complete separation of the placenta occur until the case was already so far hopeless, from the antecedent discharge, and, indeed, so far from being injurious, the separation of the placental mass would, on the very contrary, by its immediately arresting flooding, seem to have been salutary, though unfortunately in each too late to save.

On the other hand, there occurred, in the course of these seven fatal cases, circumstances and complications amply adequate to account for the deaths of the mothers, quite independently of the separation of the placenta, or of any flooding or other possible accident connected with that separation. In Mr Hay's case, the patient's death was evidently the result of the strong excitement and injuries to which she was subjected on the ninth day after delivery. Walter, as we have seen, attributes the attack of the disease, ("purpura alba," or miliary fever), of which his patient died, to her own indiscretion. In Dr Merriman's and Mercier's cases, puerperal fever and peritonitis were the causes of the fatal issue,—a disease that too often occurs independently of any morbid complication whatever, during labour. Mercier's patient had, though there was no accompanying flooding, become so exhausted, and the expulsive powers so inefficient, by the time he saw her, that instrumental delivery was deemed necessary. In Dr Ramsbotham's case, (an arm presentation) the child was delivered by evisceration of the chest and abdomen, an operation in itself sufficiently dangerous, and never employed except when turning even is impossible; and, in the present instance, it had its difficulties much enhanced by the rigid state of the os uteri. Lastly, in Mr Tindal's and Mr Wood's cases, extraction of the infants by version was had recourse to, at a time when the mothers were already greatly exhausted, and little able to withstand the additional shock of such an operation. Thus in the three first fatal cases, (Mr Hay's, Walter's, and Dr Merriman's), the delivery was effected by the natural pains; and the cause of death in each was apparently independent of any circumstances connected with the detachment of the placenta. In the four last cases, (Mercier's, Dr Ramsbotham's, Mr Tindal's, and Mr Wood's), the delivery was accomplished by such operative means as are in themselves always more or less perilous to the life of the mother, particularly when, as in some of them, she had already become prostrated and exhausted by the time they were adopted.

For the above reasons we are, we believe, quite entitled to reject, in regard to the first seven fatal cases, the idea of the death

of the mothers being caused by the total separation of the placenta, or by its mediate or immediate consequences.

If this be granted,—and we subtract on this ground the first seven fatal cases,—we have only, out of 141 deliveries, three maternal deaths left, which can be at all ascribable, directly or indirectly, to the complete detachment of the placenta, and its results. This would give a mortality of only one in about every forty-seven mothers from this complication during labour, in placental presentations; a proportion which, it must be confessed, is surprisingly small.

But it seems, indeed, even more than doubtful, whether all the three remaining fatal cases (Mr Giffard's, Dr Fraser's, and Dr Clarke's) should be allowed to have been instances in which the death of the mothers was attributable simply to complete separation of the placenta, and its effects.

Mr Giffard's patient died, if we may judge from his own account, of post-partum hemorrhage,—a complication which is known to be a special source of danger to the mother after placental presentations, under all modes of management.[1] The hemorrhage was here probably the result of the injury and laceration of the vascular and imperfectly dilated neck of the uterus, in consequence of the force employed in the operation of the extraction of the shoulders and head of the infant. This view would seem to be so far corroborated by the fact, that the post-partum discharge was not connected with the presence of any clots of blood in the uterus, and hence, was not the effect of atony of the body, or fundus of the organ. At all events, the fatal hemorrhage was not, in Mr Giffard's patient, in any apparent way, dependant upon the *previous* complete detachment of the placenta during the labour; and hence, we might probably be entitled to remove this case also, like the preceding seven, from the list of those in whom the death of the mother could be attributed to the contingent separation and expulsion of the placenta.

In Dr Fraser's case, the chest affection may have had a principal share in the sudden demise of the patient,—the presence of heart disease (supposing such existed) predisposing, as is well known, the subjects of it to be greatly, and, in some instances, fatally affected by any rapid losses of blood, and occasionally leading, as I have known in two instances, to sudden death, from the shock of the delivery, when the labour was in other respects quite natural. I would add, that the details which I have obtained through Dr Fraser's kindness, are not by any means perfectly decisive, as to the whole placenta being completely detached in this instance. The same remark may apply to the other remaining

[1] See on this topic Dr Hamilton's Practical Observations, second edition, p. 329. In speaking of placenta prævia, he states, in reference to flooding from the ruptured vessels of the neck of the uterus, (the body and fundus of the organ being contracted) that for many years past he has been led to "dread this danger in every case where he has been obliged to force delivery in consequence of uterine hemorrhage.'

case of Dr Clarke; if we may judge from the little information that we do possess in reference to it, and contrasting it with the results ascertained in other well observed instances. The account of Dr Clarke's patient is so brief and defective, as to furnish us with no data whatever as to the extent and nature of the accompanying hemorrhage, the existence or non-existence of any other complication, the delivery or not of the child, nor the immediate cause of the fatal event to the mother.

SUMMARY OF RESULTS.

Our inquiry, as far as we have hitherto proceeded, seems legitimately to admit of the following deductions.

1. The complete separation and expulsion of the child, in cases of unavoidable hemorrhage, is not so rare an occurrence as accoucheurs appear generally to believe.

2. It is not by any means so serious and dangerous a complication as might *a priori* be supposed.

3. In nineteen out of twenty cases in which it has happened, the attendant hemorrhage has either been at once altogether arrested, or it has become so much diminished as not to be afterwards alarming.

4. The presence or absence of flooding after the complete separation of the placenta, does not seem in any degree to be regulated by the duration of time intervening between the detachment of the placenta and the birth of the child.

5. In ten out of one hundred and forty-one cases, or in one out of fourteen, the mother died after the complete expulsion or extraction of the placenta before the child.

6. In seven or eight out of these ten casualties, the death of the mother seemed to have no connection with the complete detachment of the placenta, or with results arising directly from it, and if we do admit the three remaining cases, (which are doubtful), as leading by this complication to a fatal termination, they would still only constitute a mortality from this complication, of three in one hundred and forty-one, or about one in forty-seven cases.

7. On the other hand, under the present established rules of practice, one hundred and thirty-four mothers died in three hundred and ninety-nine placental presentations, or about one in three.

In the Second and Concluding part of this Memoir, I shall attempt to point out the mode in which the accompanying flooding is arrested by complete separation of the placenta, and consider its practical applicability in the treatment of unavoidable hemorrhage, with the special cases requiring it,—and I will take occasion at the same time to show, by detailed instances, the facility with which the entire detachment of the placental mass has, in some cases, been performed, and the success accompanying its adoption as a method of treatment.

(To be continued.)

ARTICLE II.—*Case of Extensive Disease of the Ileum, with Perforation. By* WILLIAM ORD MACKENZIE, M. D. Edin., *Assistant-Surgeon, King's Dragoon Guards.*

The subject of the following case, Private James Tomlinson, aged 26, was a soldier in the 68th Light Infantry, who, in consequence of illness when the regiment marched to Deal, had been left behind in the Regimental Hospital of the King's Dragoon Guards.

The deceased had served three years in Canada, whence he returned last summer. His character in the regiment was good; and latterly he had been a member of a temperance society.

Previous to his last illness, he had several times been on the sick report for "pain in the stomach," as he expressed himself. This was generally relieved by medicine, until 5th Sept. last, when he did not experience benefit from it. He was then admitted into hospital.

Mr Irving, assistant-surgeon, 68th Light Infantry, informs me that "obstinate diarrhœa soon set in, with pain, *occasionally* absent, but *generally* complained of, across the lower part of the abdomen, increased soon after taking food; his tongue was red, and very similar to what I have seen in dysenteric patients in the West Indies; thirst was occasionally very urgent, and allayed with difficulty. Tympanitis was one of the worst symptoms." *The treatment consisted of laxatives, calomel and opium, Dover's powder, leeches, and counter-irritation to the abdomen.*

In spite of these remedies, the patient continued to decline; and the prognosis was decidedly unfavourable, Mr Irving having made out "ulceration of the mucous membrane of the colon." During the whole period of his illness, there was never much febrile excitement; the appetite was most capricious; the dejections were generally thin and yellow-looking, but no blood was at any time passed at stool.

About the 20*th Sept.*, the patient complained of frequent desire to make water, which was voided in small quantities at a time, and was rather muddy.

On the 23*d* there was some œdema of the feet and ankles, which continued more or less for 10 or 12 days.—*The treatment was pil., hydrarg., digitalis, squills, and spir. eth. nitrosi*, which produced only partial benefit.

On the 1*st Oct.* he was transferred to the hospital of the 1st Dragoon Guards. There was then considerable emaciation, and much tympanitic swelling of the abdomen, with a cold perspiration over its surface. Tongue was dry and brown. Pulse 90, not strong. The following are extracts from the register, of the most prominent particulars of the case.

2*d Oct.* Has frequent chills, and partial perspirations.

3*d.* Suffered all night from severe pain in the left iliac region.

Bowels purged several times; urine scanty; pulse 92; thirst.—*Leeches to abdomen:—acet. morphiæ:—fomentations.*

4*th*. Considerably relieved.

5*th*. Pains returned in left iliac region. Pulse 88. Tongue more moist, and thirst less. Some vomiting.—*App. cucurb. cruentes parti dolenti:—Calomel and pulv. Dov.*

6*th*. Quite relieved. Swelling of abdomen much reduced. Urine abundant.

7*th*. Improvement continues; pulse 86; tongue moist; bowels moved three or four times.

8*th* and 9*th*. Much griping and tenesmus. Tympanitic swelling has returned. Bowels much purged.—*Anodyne injections:—and mist. cretæ comp.*

10*th* to 12*th*. Much easier; but emaciation increases as the bowels continue to be much purged. Has nourishing diet and wine.—*R. cupri sulpht. gr. ss., p. Doveri gr. viii. Misce. Sum. tal. bis in dies. Cont. mist. cretæ, et enemata.*

13*th* to 16*th*. Complains of cough, with difficult expectoration. Pulse 96, soft. Bowels purged without pain.—*Cont. omnia remedia ut supra.*

17*th* to 19*th Oct*. The enemata seem to increase the number of motions. Cough less troublesome,—evidently "sympathetic."—*R. acet. plumbi., sulph cupri, opii āā gr. vi. M. et div. in pil. viii. Sumat i bis in dies.—Omit. enemata.—Cont. mist. cretæ.*

20*th* and 21*st*. Number of dejections much less. No tenesmus.—*Cont. mist. cretæ:—et pil i. ut supra.*

22*d* to 24*th*. Purging removed. Feces thin, scanty, and yellow.—*Hab. enema amyli et aluminis.*

25*th* to 28*th*. Has had no pain on pressure, nor tympanitic swelling of abdomen for some days. Stools rather less frequent, but emaciation and weakness increase.

29*th*. Very low. Pulse 86, soft, and full. Bowels five times purged in 15 hours. Tongue red, rather dry. Quite free of pain.

30*th*. Bowels 7 or 8 times disturbed during last 12 hours, with griping. Great prostration of strength.—*Cont. mist. cretæ.—R. pil. hyd. gr. iii, opii. gr. ¾. St. tal. ii. hodie.*

Vespere. Easier. Bowels only 3 times moved since morning.

31*st*. Pulse 72, weak. Only 2 stools since last evening. Tongue red and dry. Nausea and vomiting. Some pain of abdomen on pressure.—*Cont. medicamenta ut heri.*

8 P.M. Very low. Occasional smart intestinal pains, for the last two hours, with rigors.

8 A.M. *Nov*. 1. Great change for the worse. Much anxiety of countenance and feebleness of voice. Acute pain of abdomen on pressure. Patient evidently sinking.

He expired at half-past one.

SECTIO CADAVERIS, 21 *hours after death*.—Great general emaciation of the body, and swelling of abdomen. The head was not examined. Lungs quite healthy.

Abdomen.—On removing the parietes, a quantity of fetid air escaped, and the attention was first directed to the great omentum, which was of a bright pink colour, and lower on the right than on the left side. At the former, it seemed as if gathered into a knot above the small intestines. On endeavouring carefully to remove this, it was found firmly connected to the ileum about 2½ inches above its entrance into the cœcum; and in the absence of the *three coats of the former intestine ulcerated* at this point, it formed the only impediment to the entrance of the feces into the cavity of the abdomen. The perforation of the ileum at the point of adhesion was of the size of a 4d. piece. At the same point, firmly adherent in its whole length, was a large gland of the exact shape, but rather larger than an ordinary kidney. It was of cartilaginous consistence, resisting the edge of the knife; it was in the centre of a purple colour, but yellowish-white in other parts. It weighed nearly four ounces.

The Stomach, otherwise tolerably healthy, was so much contracted, that it was quite concealed behind the *liver*. The latter organ was small.

The intestines having been removed, were examined throughout. The glandulæ aggregatæ or Peyeri were unusually numerous and distinct in the ileum. This intestine otherwise presented no unusual appearance until within 16 or 18 inches of its termination, when it exhibited distinctly marked symptoms of sub-acute inflammation, and in the neighbourhood of the place where, as already said, it was adherent to the omentum, it was enlarged, very much ulcerated, and diseased, until its entrance into cœcum. Here the appendix vermiformis presented a singular appearance, being of the ordinary size of the duodenum, from great thickness of its parietes; it was 9 inches long, pervious throughout, filled with feces, and had a similar appearance to that described in the ileum. Along the whole of the colon, traces of inflammatory action were well marked, but least so toward the sigmoid flexure.

The Kidneys were much of the usual size, but of a darker colour.

The Mesentery was very thick, nowhere less than a quarter of an inch, and incapable of being separated into different layers: imbedded in it were many enlarged glands, varying from the size of a nut to that of a pigeon's egg.

Remarks.

It is evident from the history of this case, and the post-mortem appearances, that the disease must have been of some standing, having originated probably three or four years before, when the patient (who latterly bore a good character) was accustomed to drink very hard.

It is curious, considering the extent of the disease, how little (comparatively speaking) general excitement and suffering the deceased endured, and that when he did complain most, he always said he suffered in the left, whereas the chief seat of the disease was in the right side.

In the detail of the post-mortem appearances, I purposely omitted mention of a second perforation of the ileum, so minute that it escaped my attention, until it was pointed out to me by Dr Lewis, (who assisted me in the examination.) It was situated a little above where the enlarged gland was attached to the ileum; but either from its small size, or from the formation of lymph around its edges, there was no passage of the feces by it into the peritoneal cavity.

Dr Stokes[1] mentions a case, where there were four perforations, of the size of a goose's quill, in the small intestines, and where no effusion took place, in consequence of the formation of lymph round each of the orifices.

Dr Stokes further remarks, "In a very few cases perforation may supervene, without the ordinary sudden and violent symptoms;" and he goes on to quote a case from Louis, (ninth observation), where the symptoms, which appeared to correspond with the perforation, were some shivering and delirium, which commenced on the morning of one day, and continued more or less until the evening of the next, when the patient died. The case was one of fever, with diarrhœa.

In the case detailed in this paper, the period of the perforation seems to have corresponded with the time between 8 A.M. and 8 P.M., when the deceased suffered from rigors, great anxiety of countenance, feebleness of voice, and general prostration. The duration of these was about 18½ hours before death.

An interesting case of perforation of the ileum, in which there were several points of resemblance to those here detailed, is given by Dr A. M. Adams, in the MONTHLY JOURNAL for January 1844.

The enlargement of the appendix vermiformis, in this case, was much greater than any thing I have ever seen before. I believe the use of this structure has not yet been ascertained. When I found the cœcum quite loaded with thin feces, and the appendix vermiformis immensely enlarged, lengthened, and also distended with feculent matter, the idea struck me that it acted as a sort of reservoir, to prevent too great pressure against the ileo-cœcal valve, whose use is to prevent regurgitation into the ileum. Is such a supposition irrational?

For cases of perforation of the intestines, see "Recherches sur Gastro-Entérite" by Louis, Abercrombie's work on Diseases of Stomach and Intestines, Dictionnaire des Sciences Médicales, article "Perforation;" Dictionary of Practical Medicine, articles "Perforation of Hollow Viscera," and "Peritonitis from Perforation of Serous Membranes;" and also the "Recherches Anat. Pathol. sur la Phthisie" of Louis.

CANTERBURY, February 1845.

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[1] Article "Perforation," *Dictionary of Practical Medicine.*

Article III.—*On the Application of Ligatures.* *By* Thomas M. Lee, M.D. Edin.

In using the common Double Ligature, I have oftener than once experienced a good deal of inconvenience,—when the patient was unsteady,—from the necessity for some manipulation, in order to ascertain which were the ends of the one, and which of the other thread. On thinking over the subject, it has occurred to me that the apparatus alluded to might be rendered much more perfect, without any material interference with its simplicity; and perhaps it may serve some useful purpose to explain my method of accomplishing this, as I have failed to find any notice by writers either on the difficulty, or the means by which it may be obviated.

The improvement which I propose consists in one half of each thread intended for a double ligature, being died black, while the other half is allowed to retain its original light colour; and the advantages which it possesses are attributable to the facility with which, after the needle is cut away, the two ends of each thread can be seized and tied; saving the patient from the anxiety which delay, even in the simplest operations, occasions; and which indeed, in many cases, is the principal or only source of suffering connected with them. The difference in colour at once distinguishes the one ligature from the other, so that there is no need for any pulling at the different ends to gain this information, nor for laying them carefully to the one side or the other when it is obtained;—precautions which, with the ordinary ligature, are necessary to insure the successful deligation of the tumours, but which from occasioning delay, are apt to exhaust the patience of the sufferer.

In the annexed figure, the dotted line is meant to represent a section of a tumour at its base, with a ligature passing through it. If the needle were cut away, it is evident that there would be two ligatures, one of them white, the other black. They are twisted on each other as they pass through the tumours, to show that such an accident would cause no confusion.

When more than one double ligature is to be used on the same tumour, I believe that every difficulty would still be avoided, by having them all similar to the one described; but in such a case it might be an advantage to have such a variety of colours, that each thread might have a different one for itself.

The preparation of the thread is obviously very simple, one half only of each hank having to be dipped into the dye, unless when it is thought desirable to have ligatures of various colours, when first one half, and then the other, may be dyed. The hank thus prepared may be cut through, either at one point in its circumference, where the black and white parts meet, or at two, viz. in the middle of the white, and again in the middle of the black part. Threads may be prepared extempore, by colouring the black part with ink.

ARTICLE IV.— *On the Study of Practical Chemistry, with reference to Physiology and Pathology. Being a Lecture delivered on Saturday, 7th December, 1844, on the occasion of the Opening of a Laboratory of Research in the University of Edinburgh. By* WILLIAM GREGORY, M.D., Edin., F.R.S.E., *Professor of Chemistry.*

IT cannot be denied, that in this country the study of Practical Chemistry, in the sense in which the term is used on the Continent, has been neglected; and, in particular, it is certain that no arrangements have been made in our universities, for giving instruction in the real practice of chemistry. It is true that we can boast of many distinguished chemists, such as Priestley, Cavendish, Black, Tennant, Wollaston, Davy, Dalton, and others; but most of these great men lived at the time when modern chemistry was created, and when, in every country, a few only of high attainments devoted their talents to the new and fascinating study. While, in all countries except our own, the distinguished chemists of that day have had numerous successors equally distinguished as themselves, it is very remarkable that hardly one of the illustrious men I have named ever formed a school, or left behind him a practical pupil. In this respect, the state of matters is so little changed, that all our rising chemists, without exception, have found it necessary to study the science practically on the Continent; and at this moment British students abound in the Continental schools of chemistry.

There are various causes for this unsatisfactory state of matters. I have elsewhere endeavoured to show, that one of these is the absence of any endowment or provision for a working laboratory.[1] Practical chemistry is an expensive study compared with many others; and if this expense be not provided for by the public, it must fall either on the teacher or the pupil, or on both. As in general, neither party can bear this burden, the result is, that the teacher either does not open his laboratory, or opens it at so high a fee that he has no pupils, or at least no school. This has been the case in our country. Most of our laboratories have remained closed, and in the very few that have at any time been opened, the fee has been so high as to prevent the formation of a school. In London, for example, the fee for six months work in a laboratory, has been 50, or at the very lowest 40 guineas; and there is no efficient school in London. Let us contrast this with Giessen : where, in addition to a good salary, a free house, and a laboratory built and furnished for him, the professor has an annual allowance for laboratory expenses, of L.245, and has also one assistant and a servant provided for him. All this is done by government, on condition that he provides accommodation and efficient instruction for fifteen working pupils. He is thus enabled to ask a very small fee, namely six or eight guineas for six months daily work; and the consequence is, that instead of fifteen, he has more than seventy working pupils annually, a large proportion of whom distinguish themselves by publishing excellent researches while still in the laboratory. The additional expense of the pupils, above the fifteen whom the professor is bound to support, is defrayed out of these fees, no part of which is applied to any pur-

[1] *Vide* our Review of Dr Gregory's Letter to Lord Aberdeen, number for May 1842, p. 434.

pose but that of improving the laboratory, the apparatus, or paying qualified assistants.

Looking to these facts, I think it will be admitted, that in this matter of endowment or provision for a laboratory, our system is faulty, and that of Giessen is excellent.

But there are other causes of the backward state of chemical research among us; and it is to these that I wish specially to direct your attention, since it is these causes which have operated as a bar to the establishment of such endowed laboratories as I recommend.

The first is, that in this country, chemistry was long considered only as a branch of Medicine, and that merely in one department, namely Pharmacy; for chemical physiology was unknown. The attention of the public, therefore, being only directed to pharmaceutical chemistry, much of the true importance of chemistry was overlooked.

Chemistry was also at one time fashionable in this country, from the very striking nature of its phenomena, and from the interest excited by the rapid succession of great discoveries towards the end of the last century. But this tended rather to retard the progress of the science than otherwise, as it came to be viewed more as a pleasing recreation than as a most important branch,—second to none,—of the study of nature.

At first sight it seems difficult to account for the fact, that in the absence of schools of research our chemical manufactories should be so successful. But it is the distinctive characteristic of our countrymen to make such practical applications of science as are likely to make a good return; it is, moreover, well known that the scientific principles on which many of our manufactures are founded, were discovered on the Continent; and finally, a large proportion of our chemical manufacturers or their assistants have had their chemical education in Glasgow, where Professor Thomson, much to his credit, for many years conducted the only practical school in Britain, although he must have done so at a pecuniary sacrifice.

Another cause of the want of a proper appreciation of chemical research was, that erroneous ideas were entertained as to the objects of it, which ideas are even yet too prevalent. Thus the metallurgist came to the chemist to learn metallurgical chemistry; the calico-printer to learn the chemistry of dyeing and calico-printing; the brewer to learn the chemistry of fermentation; the farmer that of agriculture; and the physician that of physiology or pathology. Each looked to his own province exclusively, with a view to profit, and each expected the chemist to furnish him with a number of infallible recipes for practice. The chemist was supposed to have a practical knowledge of all chemical arts, a thing manifestly impossible, and not desirable if it were possible. In short, chemistry was looked on as a means of enriching the manufacturer, not as a science to be studied on its own account, and which is most applicable to practice when it has been most scientifically taught.

It must be admitted, that this very erroneous notion of chemistry has too much prevailed among us; and even chemists have been carried away by the current, and have forgot the true value and dignity of their science. On the Continent, juster views have been generally held; and, as will always prove to be the case, the truly scientific chemical education has been found to be, not only theoretically, but practically, by far the best and most profitable.

To refer once more to the admirably conducted school of Giessen, the principle there acted on, and which I firmly hold, is, that there is not a chemistry of agriculture, of metallurgy, of calico-printing, &c. &c., but only one chemistry which, when properly studied, gives us a full command over the chemical part of all such arts. In that laboratory there are annually educated many chemists for all possible professions; and not only is the course of instruction in research the same for all, but he who proposes to devote himself to a special branch hereafter, is not permitted to occupy himself with it until he has gone through the course,—by which time, if intelligent, he is quite able to dispense with those very experiments which he was at first so anxious to make. All chemical arts or manufactures depend on the application of the general princi-

ples of chemistry; and when these principles are once well known in their purity and universality, the student has the means of improving the processes followed in the trade, to a far greater extent than is possessed by those who have been all their lives practically familiar with them. Had the student from the first devoted himself, as most of them wish to do, to his own subject, he would have left the laboratory, able, perhaps, to pursue the methods which had been followed before,—although even this could not well be taught, except in an actual manufactory,—but quite incapable of taking a comprehensive view of the subject, of detecting errors and sources of loss, and suggesting useful improvements. No honest teacher could profess even to teach the processes of the chemical arts as practised, because these must be learned on a large scale, or the information acquired is of little use in actual practice; but he may, and does, enable the student to investigate his processes, to detect the causes of failure, to propose improvements, and, in short, to do all that can be done by the application of scientific principles and extensive knowledge.

It happens constantly, in the Giessen laboratory, that a pupil, after going through the course of practical chemistry, and showing himself well qualified, by his own researches, to make use of the knowledge he has acquired, obtains a situation as chemical superintendant of some manufactory, the nature of which he has never specially studied. But so efficient has been his preparation,—so thorough his instruction in the principles of chemistry,—that in a day or two he is quite at home in all the details of the manufacture; and within a week, perhaps, he is enabled to suggest and introduce important and valuable improvements on it. I have had occasion myself to know several such instances.

It is, therefore, with the view of introducing here the system which has been so successful at Giessen, that I have opened my laboratory for working pupils, and that I have obtained the assistance of a gentleman, well acquainted with the Giessen laboratory, and with the methods there followed. I shall now say a few words as to my views of the method best adapted for attaining the object in view.

But I must previously allude to another cause of the low state of chemical research among us,—a fact which may be demonstrated by a glance at the chemical journals for the last twenty years, in which the names of British chemists occur at long intervals, and where it appears, that almost every British chemist whose name does appear creditably, has studied research on the continent. The cause I allude to is the existence of courses of what is called Practical Chemistry, which, although useful in their own way, are yet a very poor substitute for chemical research. Many suppose that in these courses the art of research is taught; and as we hear of such courses being well attended, we fancy that research is studied among us. But it is the name which here misleads us. These practical courses are, in the first place, intended for students of medicine; in the second place, they extend to about sixty hours, that is, one hour daily for three months, five times a-week; and, consequently, as a great part of this time is occupied with pharmaceutical preparations, and one chief object of the course is to impress the elements of the science more deeply upon the minds of the students, it is quite impossible that research can be taught, for this requires the pupil to devote several hours daily to the laboratory. Our courses of practical chemistry, therefore, although they may be rendered very useful indeed to the medical man, cannot produce pupils capable of making chemical researches. In this point of view they can, at most, serve as an introduction and preface to the real laboratory course.

In the course of lectures which I deliver from this chair, it is my constant endeavour so to teach and demonstrate the different parts of the subject, that the knowledge thus conveyed may be at once applicable to the laboratory, when the student shall enter the latter. Among the numerous methods of obtaining a substance, I choose, on principle, the best and simplest for exhibition, on the class-table. By this means, those who attend the lectures become familiar with many operations such as they will afterwards have to practise.

I also endeavour, in the lectures, gradually to lead the student from the principles developed in the early part of the course, to their applications in the

latter part of it, including, of course, their application to agriculture and other useful arts, to physiology and to pathology; and further, to teach him by the very striking examples which can now be produced in every department, of the advantageous application of chemistry, what is the true method of entering on researches with a view to such applications, before he actually begins to work in the laboratory. The lectures, therefore, are intended to form part of the system of practical instruction.

When the student comes into the laboratory, he is first of all taught the distinguishing characters of those substances which most frequently occur. He then goes on, always under superintendence, to exercise the practical knowledge thus acquired, by discovering for himself, aided by printed rules, substances unknown to him, but containing one or more of those with which he has already become acquainted. This is a most important part of the practical course; for when the student is able easily to discover or recognise the substances you place before him, whether singly or mixed together, he is master of qualitative analysis,—a branch of the subject altogether essential to future progress of any kind. Then, and not till then, he may with advantage undertake original or independent researches, such as analyses, not only qualitative, but quantitative, of natural or artificial products: of rocks, minerals, waters, soils, ashes, manures, urine, blood, bones, &c. &c. &c.

One of the most important branches of the laboratory training, after the student has mastered qualitative analysis, is that which teaches him how to perform the ultimate analysis of organic compounds. The great improvements which have of late years been made in the methods of ultimate analysis, particularly the introduction of Liebig's apparatus for determining the carbon, and that of Will and Varrentrapp for determining the nitrogen of organic compounds, have given to this department of chemistry a degree of facility and security formerly unknown; so that every chemist of ordinary dexterity may perform with success what was once so difficult and tedious an operation, as to deter most chemists from undertaking it. The ease, rapidity, and accuracy with which organic analysis can now be made, have put it in our power to use it as an instrument of qualitative research, in the most delicate physiological investigations.

Thus, for example, as long as the bile was studied without the aid of ultimate analysis, it yielded, in the hands of the first chemists in Europe, a mass of discordant results, which, if they proved any thing, proved that that fluid was the most complicated mixture ever imagined, the use of which it was impossible from its composition to guess. But as soon as Demarcay, under the guidance of Liebig, applied ultimate analysis to its investigation, it appeared that the bile was, in its natural state, of a most simple constitution, being a salt composed of soda and a peculiar acid, the latter constituting the organic part of the bile. This substance, now called choleic acid, is perfectly uniform in composition, but is liable, out of the body, to undergo innumerable changes, giving rise to new products, the mixture of which with unaltered bile and with each other, had been the origin of the various new bodies obtained by Berzelius, Gmelin, and others, all of which had received different names, but none of which, when analyzed, gave constant results, if we except the taurine of Gmelin. The results of Demarcay were controverted by Berzelius, who, in his last paper on the bile, made it out to be a still more complicated mixture than before; but still more recent researches, made at Liebig's request, by his pupils, Enderlin, Theyer, and Schlosser, on the same principle, of using the ultimate analysis to ascertain the identity or difference of two products, their purity or impurity, have amply confirmed, and established with greater accuracy, the conclusions of Demarcay; so that the composition of the bile is now better known than that of any other fluid; and this composition is constant, whether choleic acid be a distinct acid, or, as Berzelius insists, a mixture, or rather compound of several others. If it be such a mixture, still, in its relations to the animal functions, it acts as if it were single. It was only after this had been fully established, that Liebig was enabled to trace as he did in his *Animal Chemistry*, the true nature of the connexion between the bile, the

blood, and the urine, both of which had meanwhile been analyzed on the same principles. We can now see how the blood, or what is the same thing, the solid parts of the body, (for blood and flesh are identical, or nearly so, in ultimate composition,) by the addition of oxygen, derived from respiration, and of water, may be resolved into choleic acid, on the one hand, and urate of ammonia, the fundamental substance of urine, on the other. We are now also enabled to demonstrate, that the excrements contain hardly a trace of bile, and that therefore the whole of the great mass of bile produced in the animal body must be burned off in the body, that is, oxidised and converted into water and carbonic acid; in undergoing which change it gives rise to the greater part of the animal heat. When we reflect, that it is not long since the bile was viewed as an excretion of useless matter, to be expelled the body by the bowels, (an idea which agreed well enough with the earlier chemical researches, according to which the bile was, as it were, the current of a sewer or cloaca, carrying all impurities out of the body), nay, that this opinion is still held by some, we may form some idea of the value of that method of research, which has taught us the true function and the true value of the bile, and which has even already thrown much light on the hitherto obscure connexion between hepatic and urinary disease.

Again, the application of ultimate analysis to the products of decomposition of urate of ammonia, (the urine of reptiles and cold-blooded animals), which, before it leaves the body of man, is oxidised to a high degree, has shown us that the final results of the oxidation in the body of urate of ammonia, are urea, carbonic acid, and ammonia, of which the first and last are given off by the urine, the second by the lungs; and that imperfect oxidation leads to the deposit of uric acid calculus; it has further proved, that this imperfect oxidation of uric acid is generally owing to a want of alkalis in the food, thus explaining how the Rhenish wines, so rich in tartar, never produce uric acid calculus, while the dry strong wines of Spain and Portugal do so to a great extent, both from deficiency of tartar and excess of alcohol, an agent which seizes a great part of the oxygen that would otherwise render soluble the uric acid; it has taught us, moreover, that at an intermediate stage of oxidation of uric acid, oxalic acid appears instead of carbonic acid, and has thus accounted for the origin of mulberry calculus, and explained why that calculus follows uric acid when the patient leaves town for the country, or in other words, increases the amount of oxygen respired. Surely a method of research, which in so short a time has cleared up so much of what was most obscure, is one worthy of being cultivated with care and zeal. Yet the first steps in this most important field of research, were the formation and analysis of a number of compounds, derived from uric acid, a kind of research which at first had only a purely scientific interest, and may often have been considered as a mere waste of time and labour.

The most recent researches of Liebig on the urine, have gone still farther in extending our knowledge of this important excretion; and it is particularly worthy of remark, that his late discoveries in this department are the result of the application of the very simplest principles of chemical research. Thus, by asking himself the question, By what means is the uric acid, a substance insoluble in water and acids, dissolved in the urine? and answering this question experimentally, he has established the important fact, that the solvent is phosphate of soda, and that the acid reaction of the urine is owing to the uric acid dissolved in it. Here is at once a source of much practical improvement; for it is easy to see, that this unexpected property of phosphate of soda may be rendered available in many ways, for the cure or relief of calculous disorders, perhaps even of the calculous and arthritic diathesis. The detection of hippuric acid in human urine in all cases of mixed diet, and the tracing of its relations to benzoic acid on the one hand, and uric acid on the other, are also points of great interest. But the chief value of these, Liebig's latest researches, lies in the proof that the mineral salts of urine are nothing else than the soluble portion of the ashes of the food, (which may be viewed as burned in the body), the insoluble part being found in the contents of the rectum, and that conse-

quently these mineral salts may be changed *ad libitum*, in a natural way, without the use of drugs, simply by changing the diet, according to the known composition of the ashes of the food. What a powerful, and yet simple and safe instrument, is here put in the hands of the physician, who has chemical knowledge enough to avail himself of it! And yet, without the laboratory training which I advocate, the analysis of the ashes of food, and of the salts of urine, &c., could not have been correctly made. So true is this, that, till within these very few years, no correct analyses of such matters were known; and one of the most valuable services which the laboratory of Giessen has performed for science, is the publication of the admirable method of Will and Fresenius for the analysis of ashes.

Are we not, therefore justified, in making every effort to take our place among those who are so usefully employed in hastening the progress of chemical research? Is there any reason why Edinburgh should not be able to point to a school of research? and may we not hope, ere long, to see the pupils of our school offering their contributions to science, without being compelled to go abroad for the necessary instruction? It is my firm conviction, that all this may be easily done; but it is self-evident that, if the whole burden of the necessary expenditure be thrown on the teacher or on the pupils, the school must, after a time, languish and expire, although individual zeal may keep it in operation for a few years. The experience of Glasgow confirms this view; and as to London, an efficient practical school has never existed there. There ought unquestionably to be an annual allowance, to be devoted exclusively to purposes connected with the laboratory of research, and on condition of the Professor undertaking to receive a certain number of pupils, at a very moderate fee.

It is not desirable that the school of research should be confined to the University. I rejoice to say that there are two extra-academical teachers, as anxious as I am, to introduce true chemical research in Edinburgh; and just as Dr Ettling and Dr Will, at Giessen, have thriving laboratories out of the University, so I trust that Dr Wilson and Dr Anderson, both thoroughly well-trained, will be able to establish an extra-academical school of research, or, rather, to co-operate in forming one great and efficient Edinburgh school, in all the branches of which the same great principles shall prevail.

For my own part, I am resolved to do my utmost to place instruction in chemical research within the reach of every one who feels inclined to pursue the study. I have already mentioned that I make my lectures preparatory to practical instruction, so that, after attending the course, or the greater part of the course of lectures, the industrious student will be qualified at once to commence the study of qualitative analysis in the laboratory. He may, if he pleases, attend one of the ordinary practical courses, before entering the laboratory; for in these courses much is taught which is of use to the medical man. I may here mention, that in these courses there are two principal divisions: 1st, Qualitative analysis, including the detection of poisons; 2d, The preparation of pharmaceutical compounds. These go on simultaneously. Of course, the qualitative analysis is not so fully taught there as in the laboratory, but a useful beginning is made, and the student learns many chemical operations. The chief objection to these courses is the limited time bestowed on practice: but this very circumstance places them within the reach of those whose time is a good deal occupied. I wish it to be fully understood, that my practical classes, as well as my lectures, are introductory to the laboratory. In the lectures and in these classes, I have the very valuable assistance of Mr Kemp; and for the instructions given in the advanced laboratory, in which several gentlemen are now at work, I have that of Dr Schlossberger. By the aid of these gentlemen, I am sure of being able to introduce all new improvements, and to keep the laboratory of the University on a level with those on the Continent.

I have thus endeavoured to explain my views of what practical chemistry ought to be, and of how it ought to be studied; and it only remains to thank you for the kindness and patience with which you have listened to these dry details. I trust, by this time next year, to be able to report considerable progress.

PART SECOND.

REVIEWS.

Traité Des Phénoménes Electro-Physiologiques des Animaux. Par C. MATTEUCCI. 1844. P.p. 342.

Treatise on the Phenomena of Animal Electricity. By C. Matteucci.

From the well-known effects of Electricity in regulating chemical compounds, in disturbing and breaking up even the most powerful chemical affinities, and from its acting as an energetic excitant to the muscular fibre, either when applied to it directly, or to the motor nerves; this agent is supposed by some physiologists, to play a most important part in the phenomena of organized bodies, and it has been considered to be the regulator of what are called vital affinities, to be the source of nervous influence, the cause of animal heat, and it has even been exalted to the place of the vital principle itself. An extended and carefully experimental investigation, by one possessing the necessary capabilities for the undertaking, into the electric phenomena of organized living bodies, in the present more advanced condition of the sciences of electricity and physiology, was much desiderated, and it would have been impossible to find one better fitted for the task than the author of the work before us. His experiments have justly attracted a considerable degree of attention, and we may mention in evidence of the amount of confidence reposed in their accuracy, and of the value attached to them, that the Copley gold medal of the Royal Society of London was lately bestowed upon him. Before proceeding to detail the results he has obtained, we shall briefly enumerate some of the most remarkable and valuable electro-physiological phenomena observed by previous experimenters, and in doing this, we shall freely avail ourselves of the historical notices given by Matteucci. Before entering upon this, however, it may be well to explain the manner in which Galvani, the discoverer of galvanic phenomena, prepared frogs for electro-physiological experiments, as we shall have frequent occasion to refer to it. A living frog is cut across immediately behind the anterior extremities, the viscera are removed from the posterior and larger portion of the animal, which is the portion preserved for experiment, and the skin is detached from its two superior thirds. In this preserved portion we have a part of the spinal cord, the pelvis, and the two posterior extremities. A pair of scissors is now introduced between the lumbar nerves and the pelvis, and the latter is cut through at two parts, leaving the former uninjured and bare. Between the years 1780 and 1790, Galvani, while dissecting a frog, in a room where some of his friends were making experiments with an electrical machine, observed that the muscles of the frog were thrown into convulsive contraction by passing an electric spark through its nerves. Some time after this he had suspended some prepared frogs, by copper hooks, to the iron railing of his garden, and he perceived that when the limbs of the frogs touched the iron railings, their muscles were convulsed. This was the starting point of an extended series of experiments, which induced him to believe that animals possessed an electricity of their own. Galvani also ascertained that the contraction of the muscles of a

frog took place when the extremities of a metallic arc, formed of two different metals united together, rested by one extremity on the nerve, and by the other on the surface of the muscles, and he pointed out the advantage of employing in this experiment an arc composed of two different metals, instead of one. He also discovered that the contractions of the frog may be obtained by uniting by a metallic arc, two capsules full of water, on which the frog was laid, so as to have its lumbar nerves immersed in the one, and its legs in the other. He supposed that there was an electric nervous fluid condensed in the interior parts of the muscle, and he regarded the nerve as answering the part of the conducting arc of the discharge of the two electricities contained in the muscles. He, however, also admitted that many of the contractions obtained by the metallic arc, may be due to the arc itself. He also arrived at the conclusion, but on what grounds is not stated, that the direction of the current is from the muscle to the nerve in the frog. He likewise ascertained that contractions could be excited in the prepared frog, by bending the limbs and bringing the legs in contact with the lumbar nerves. To succeed in this experiment, it is necessary to wait until the tetanic contraction of the muscles induced by the preparation of the animal has ceased. He found that a piece of muscle may be used as a conductor between the nerve and muscle, with success; and that on touching the nerves of the prepared frog, at two different points, with a portion of muscle taken from a living animal, contractions were produced in the muscles of the frog. Volta repeated and extended the experiments of Galvani with the utmost care, and at first admitted the existence of an animal electricity in the muscles. Volta ascertained that a very feeble discharge of electricity may excite contractions in a muscle, if directed from the nerve to the muscle, while it does not produce this phenomenon if directed in a contrary direction. Volta also discovered that he could, with the metallic arc, produce the sensation of light or the sensation of taste, as he acted with the metallic arc upon the nerves of the eye or of the tongue, and he drew from these facts, the inference, that both in his own experiments, and in those of Galvani, the contraction of the muscles was produced by the irritation of the nerves; that such irritation may sometimes produce contraction, sometimes sensation; and that the irritation of the nerves in the experiments with the metallic arc, was due to an electric current developed by this arc. He imagined that in the contact of two heterogeneous conducting bodies, an action was developed by which these two bodies were charged with contrary electricities, which may be discharged through a third body which is not capable of this action with the other two. Up to this time, the idea of the development of electricity by two heterogenous metals, entertained by Volta, was still an hypothesis. It was in the month of August 1796, that Volta obtained the first evidence of electricity developed by the contact of two metals, and that the galvanic pile was discovered. The influence of this discovery upon all the sciences, and the rapidity with which it extended itself, caused the opposition of Volta to the belief entertained by Galvani and his followers, in the existence of an animal electricity to prevail; and Matteucci remarks, "50 years have passed, during which no one had the courage, even in historical articles, to name animal electricity." Volta found that the continued passage of an electric current through a frog, enfeebled its action in the direction of the current, while it was still very strong when it passed through the animal in the contrary direction. "It is this important phenomenon which is in consequence called *alternatives voltranes*."

Valli discovered that when the contractility of the muscles becomes enfeebled, an electric current, directed from the ramifications of a nerve to its trunk may not excite contractions at the time the circuit is closed, while these are produced at the instant the circuit is broken. He also ascertained that when a portion of a nerve has become insensible to the excitation of electricity, renewed contractions may be produced by applying the electricity to the nerve at a point nearer to the muscles in which it is ramified. Lehot ascertained that an electric current passed in the course of its ramifications, excites a sensation at the instant that the passage of the current is arrested, whilst this does not occur at the commencement of its passage. Nobili discovered that when the two ex-

tremities of a prepared frog are placed in two capsules full of water, and the two extremities of a galvanometer are immersed in the capsules, a deviation takes place in the magnetic needle, due to the passage of a current of electricity passing from the feet towards the upper parts of the animal. Nobili called this current, the current of the frog, or proper current (*courant propre.*)

Matteucci, in the 2d Chapter of the work before us, describes the instruments which may be employed in electro-physiological researches, and very carefully points out the methods to be followed in applying galvanometers, and the different sources of fallacy to be avoided in their employment. No one who is not previously intimately acquainted with all the details of this subject, should attempt any electro-physiological experiments, without an attentive perusal of the valuable rules and directions laid down by Matteucci, for conducting these. There would have been this day infinitely less discrepancy of opinions in physiology, had all experimenters entered upon their researches with the same deep consideration of the various circumstances which demand attention, and the numerous sources of fallacy attending all experimental researches into the phenomena of living organized bodies. Among the galvanometers, he describes one which acts from its physiological properties, and he terms it *grénouille galvanoscopique*. For forming this instrument, he takes the frog, prepared after the manner of Galvani, cuts it longitudinally through the spine into two parts, and from one of the two portions, removes the muscles and bones of the thigh without injuring the crural nerve, so that the leg alone is left with the lumbar and crural nerves attached to it. The leg is introduced into a tube of varnished glass, with the nerve hanging from the open end of the tube, and by connecting the nerve with two points of the electro-motor element, it is wished to examine, we obtain an instrument of great delicacy, for when the nervous filament is traversed even by a feeble current of electricity, contractions are produced in the muscles. This instrument must be renewed from time to time, for as it is well-known, the excitability of the nerve, and the contractility of the muscular fibre, last only a limited period after death. This galvanometer may not only indicate the presence of an electric current, but also its direction, for when the vital properties of the limb are enfeebled, the muscles contract when the circuit is completed, but remain quiescent when the circuit is opened, if the current be directed from the trunk of the nerve towards its ramifications in the muscles; while these phenomena are reversed if the current be directed in the opposite direction, or from the pèripheral towards the central portion. We shall now proceed to give an abstract of the most important results obtained by Matteucci in his experiments.

In Chapter IV. of the first book, which treats of the conducting power of the electric current of the different parts of animals, he arrives at the conclusion, that we may consider the conducting power of muscle to be four times greater than that of the nervous and cerebral substances, and that the two latter are nearly alike in this respect. In prosecuting these experiments he obtained, in some of them, results of considerable importance if confirmed by subsequent researches. These appear to show that an electric current made to pass from the spinal cord to the nerves is less diffused through the surrounding textures, and is better conducted, than when made to pass from the nerves to the spinal cord, and that this difference is less in the two cases in proportion as the vitality of the nervous system diminishes.

In Chapter V. he points out the existence of an electric muscular current in animals alive or recently killed. In all his numerous and varied experiments on this point, he ascertained that on every occasion in which the interior of a muscle of an animal alive or recently dead, is brought by the aid of a conductor in contact with the external surface of the muscle, an electric current is developed, which always passes *from its interior to its surface*. This electric current varies in intensity in the muscles of different animals, and is augmented, *cæteris paribus*, in proportion to the amount of muscular substance employed in the experiment. If the nerve of the galvaniscopic frog be placed in a wound made in the muscle of a living animal, and the nerve made to touch, by two different points, the interior and the surface of the muscle, the leg of the frog is

thrown into contraction. The same fact may be demonstrated by placing portions taken from the muscular parts of the bodies of animals, and arranging them like a galvanic pile in such a manner, that the inner surface of each of the muscular elements touches the outer surface of the one next it, so that the interior of the muscle forms one extremity of the pile, and the external surface of the muscle the other extremity of the pile. One of those muscular galvanic piles with which Matteucci most frequently experimented, is formed in the following manner. He prepares a wooden board with several small cavities excavated on its upper side, and the whole surface of the board and its cavities are covered with a layer of varnish. He then takes five or more prepared frogs, divides them in two, and disarticulates the legs as correctly as possible so as not to wound the neighbouring muscular bundles. He now cuts each thigh in two, and thus procures a number of half thighs, of which the lower halves are to be used in the construction of the pile. These are ranged upon the board in this manner. The first half is placed upon the edge of one of the small cavities excavated in the board, and the others are arranged behind this in a single row, each half thigh touching the one before and behind, all having the thick end looking in one direction, and having the last thigh in the row projecting like the first over the edge of one of the small cavities. At each point of contact between any two half thighs, the interior of the muscles in the one is opposed to the outer surface in the other; and one of the extremities of the pile is formed by the inner surface, while the other is formed by the external surface of the muscle. The two cavities at the extremities of the pile are now filled with a fluid, and in these the wires attached to the galvanometer are placed, after having been previously immersed in a fluid similar to that in the cavities, until the deviation of the magnetic needle caused by this has ceased. As soon as the circle is completed, a deviation of the magnetic needle of the galvanometer immediately takes place, and this varies according to the number of half thighs or elements of the pile employed. Matteucci obtained a deviation of 15°, 20°, 30°, 40°, 60°, &c., in his galvanometer, according to the number of half thighs employed, and supposing the frogs employed of equal activity, he obtained 3° or 4° with two elements or half thighs, 6° to 8° with four elements, 10° to 12° with six elements, and so on in proportion.

In these experiments the cavities were filled with distilled water, but when acidulated water was used, the deviation of the needle was considerably greater. With distilled water eight half thighs produced a deviation of 15°, while the same number of elements produced a deviation of 50°, after a few drops of sulphuric acid had been added to the water. Matteucci gives the details of similar experiments upon other cold-blooded animals, and also upon warm-blooded animals, and he invariably observed the same results. He formed a similar pile of mutilated but live frogs, and obtained the same evidence of the passage of a galvanic current between the interior and the surface of the muscular bundles. He successfully demonstrates that this galvanic current is not owing to any circumstance independent of the action between the interior and the surface of the muscle, such as the fluid in contact with the interior of the muscle being more mixed with blood than that on the exterior, or any similar cause.

In Chapter VI. he investigates the laws of the muscular electric current, and his conclusions from his experiments are as follows. The intensity of the muscular electric current varies in cold-blooded animals according to the temperature of the medium in which they have lived during a certain time. The exposure of the animal to a low temperature for a short time only, does not much affect the intensity of the current, while it may be much enfeebled by a more prolonged exposure to cold. The influence of cold upon the muscular current of warm-blooded animals, appears to be less than in cold-blooded animals. The duration of the muscular current after death is so much shorter as the animal is more elevated in the zoological scale. It therefore continues longer in the muscles of cold-blooded than in those of warm-blooded animals, after apparent death, in other words, after the cessation of the functions of respiration, circulation, sensation, and volition. The intensity of the muscular current varies with the degree of nutrition in the muscle, being greater when

the nutrition is more active, and *vice versa*. It is also greater in muscles inflamed and gorged with blood. This electric current is entirely independent of the integrity of the nervous system, both motor and sensiferous, and of the activity of this system. The influence of narcotic poisons upon this current is *nil* or very feeble. Among the different gaseous poisons, sulphureted hydrogen alone acts in a marked manner in enfeebling the intensity of this current. The direction of the muscular current is constant in all cases.

In Chapter VII. he examines what is called the *courant propre* of the frog. Nobili, fifty years after the discovery of Galvani, studied the phenomena of the *courant propre* with the galvanometer. Nobili, as we have already mentioned, prepared the frog after the manner of Galvani, and placed it with its lumber nerves in a small vessel, and the legs in another small vessel. He then filled the two vessels with water, and completed the circuit by placing the wires of the galvanometer in the two vessels. When the circuit is closed, a deviation of the needle of the galvanometer occurs. Matteucci found in his experiments performed after the manner of Nobili, that the deviation in the needle amounted to 5°, 10°, 15°, and even more, according to the delicacy of the instrument and the condition of the animal experimented on. This electric current is always directed from the feet to the head of the animal. This electric current is the *courant propre*. At the moment the deviation of the needle occurs, the muscles of the frog are thrown into contraction, and this is termed the *contraction propre*. This *contraction propre* takes place when an active and strong frog is rapidly prepared, and the nerves and muscles connected by any conductor whatever. The same kind of contraction may be observed if we hold the frog either by the nerves or leg, and plunge the other extremity into a vessel of water. In this case the circuit is established between the liquid, the ground, and the body of the observer. The signs of the *courant propre* of the frog are more or less prolonged according to the degree of vitality in the animal. The *contraction propre* generally ceases after ten or fifteen minutes, and it is rare to find it half-an-hour after the animal has been prepared. He has ascertained that this *courant propre* of the frog continues in the same direction, and with undiminished intensity after the spinal marrow, the spinal and crural nerves, and all the visible nervous filaments of the muscles of the thigh have been removed. It may be obtained by the leg alone of the frog, for a pile composed only of legs, and compared with a pile of the same number of half or even entire frogs, showed no difference in their intensity. The removal of the tendinous parts from the muscles of the leg did not impair the intensity of the current, and in all cases its direction was from the lower end of the limb to the upper. The duration and intensity of this current after death, appear to be influenced by the same causes as those which we have mentioned as affecting the muscular electric current.

In a subsequent chapter, he informs us, that the persistence of the *courant propre* after death, is longer than the muscular current. He has also detected the existence of the *courant propre* in living animals.

Chapter VIII. contains an examination of the functions of the nervous system in the muscular electric current, and in the *courant propre* of the frog. The result of all the experiments on the subject confirms the conclusions regarding the share which the nervous system has in the production of these electric currents, drawn from the investigations detailed in the previous chapters, viz. that the direction of these currents is altogether independent of the nervous system, and that it acts as a feeble conductor, representing the electric condition of the part of the muscle with which it is in the closest apposition.

In the next chapter he discusses the theoretic views of the cause of the electric muscular current.

He states that his researches do not prove the existence of free electricity in animal bodies; and afford no grounds for believing in the circulation of an electric current along the nerves, ramified in the muscles. As, however, these electric phenomena cease a short time after death, and before the disappearance of the vital properties of contraction in the muscles, we are entitled to conclude that they are dependent upon some of the conditions necessary for main-

taining the vitality of the tissues. This opinion is confirmed by the influence exerted upon the muscular current by the circulation of the blood, by the redness of the muscular bundles, &c. "These conclusions," he remarks, "necessarily result from experiment. Is it not natural to suppose, that nutrition, such as we understand this process to be carried on in the muscular and other tissues of living animals, develope electricity? It would be very difficult not to admit this. In fact, it is now fully proved, that the action of the oxygen of the arterial blood is exerted upon all parts of a living body; that all the parts of the organism are incessantly renewed; and that a kind of combustion everywhere accompanies this renewal, during which carbonic acid gas is formed, and caloric is disengaged. Now, we cannot admit that such chemical action could take place without the development of electricity." "The nervous system may act in two very distinct ways in the production of the muscular current. In the first place, it acts as an imperfect conductor, making part of a circuit, is not a source of electricity, and merely represents the electrical condition of the interior or the surface of the muscular mass, as it happens to be nearer the one or the other. This first function is purely physical. The nervous system ought also to act in promoting that condition of the muscle which favours the development of electricity, for nutrition is influenced by this system."

He confesses that though these theoretical views seem to account in a satisfactory manner for the muscular current, they are completely insufficient in explaining the cause of the *courant propre* of the frog, and he confesses his inability to account for the latter. It is a curious fact, that this *courant propre* appears to be confined to the frog, for he could not detect it in animals nearly allied to the frog, as the salamander, turtle, and eels. He mentions some other interesting facts connected with this *courant propre*, which our want of space obliges us to pass over.

In Chapter X. he points out a remarkable physiological phenomenon produced by a muscle during contraction. He took a frog prepared in the usual way and placed it upon an isolated plane. He then detached the posterior extremity from another frog, and carefully cut away the muscles and bone of the thigh from the crural nerve, leaving it connected with the muscle of the leg. After the convulsive movements attending the preparation of the frogs had ceased, he placed the crural nerve having the leg attached to it in contact with the muscles of the prepared frog, keeping the leg itself, however, at some little distance from the prepared frog. On touching with a voltaic circle, the lumbar nerves of the prepared frog, the muscles of the thigh are thrown into contraction, *and at the same time the muscles of the leg, whose nerve is placed upon the muscles of the thigh, are also thrown into contraction.* The muscles of the limb of the frog were also thrown into contraction when the nerve was placed upon the muscles of a rabbit in a state of contraction. In performing this experiment, it is necessary that the nerve of the leg should be in immediate contact with the muscles of the prepared frog, and the muscles of the leg contract simultaneously with those of the thigh, though every precaution be taken that the nerve of the leg be not placed within the galvanic circle. In fact, the same phenomena occur when the muscles of the thigh are thrown into contraction by mechanical excitation of the lumbar nerves, provided these contractions be forcible. He satisfied himself that the contractions of the muscles of the leg were not due to any friction of the nerve upon the muscles during their contraction, or any other mechanical cause. This contraction of the muscles of the leg is apparently due to the evolution of electricity in the muscular texture during contraction. When the muscles of the thigh are thrown into contraction in the experiment explained above, electricity is evolved, and this acting upon the nerves distributed in the muscles of the leg, excites them to contract. This view is still farther strengthened by the experiments of MM. Becquerel and Breschet, which show that an evolution of caloric takes place during the contraction of a muscle. The phenomena described in the above experiment are entirely new, for Matteucci points out that they resemble in appearance only the celebrated experiment of Humboldt, in which he found, that when one nerve leading to the muscles of the limb of a frog was placed in con-

tact with the nerve leading to the muscles of the limb of another frog, *one* nerve was excited by galvanism, the muscles of both limbs were thrown into contraction. Matteucci, on carefully and frequently repeating this experiment, found, that excitation of one nerve never produced contraction in the muscles of the other limb, unless the nerve of that limb was included in the galvanic circle formed in exciting the nerve of the other limb. The direct excitation of the nerves of both limbs by galvanism must therefore have taken place in Humboldt's experiment, and it therefore differs entirely in its nature from that performed by Matteucci. J. R.

(*To be concluded in next Number.*)

Traité Philosophique et Clinique d'Ophthalmologie, basé sur les principes de la Thérapeutique Dynamique. Par M. F. ROGNETTA, M.D., *Professor, &c. &c.* Pp. 724, 8vo. Paris.

(*A Philosophical and Practical Treatise on Ophthalmology, based upon the principles of Therapeutics.* By M. F. ROGNETTA, M.D., &c. &c.)

A somewhat careful survey of M. Rognetta's elaborate work enables us very decidedly to express our conviction, that its plan and execution vindicate the high pretensions of its title. It is truly a philosophical and practical Treatise on Ophthalmic Science, and based on the somewhat novel, and, we should think, valuable therapeutic principles of the Italian school. The author's acquaintance with the literature of the subject, from the times of Celsus to the present day, appears accurate and complete, comprehending the standard works of the different countries of Europe. To say nothing of French authors, his knowledge of those of Germany is respectable, and of those of Italy and England intimate. The works of John Hunter, Lawrence, Travers, Mackenzie, Tyrrell, Middlemore, and others, are quoted like household words; and as a proof of how much he maintains himself on the level of present discussion, we mention, that we were not a little gratified to find our own pages frequently referred to. The work is at once comprehensive, and, notwithstanding its great length, condensed. It is a second edition, though this does not appear on the title-page; and has thus had the advantage of revision and correction. We are convinced that it will stand an honourable comparison with our best modern treatises on the science, and that no one who wishes an acquaintance with what is valuable on the subject, will willingly be destitute of so copious and judicious a help. We are aware that these statements are decidedly eulogistic; but they are the genuine expression of our unbiassed impressions; and we care not to withhold them, or rather, we feel that it is only an act of justice to express them. Did space allow, a careful review would, we think, demonstrate their accuracy to the satisfaction of every one. All we can attempt, however, is a slight synopsis, with a few casual illustrations; but sufficient, we trust, to enable the reader to form his own judgment.

The Treatise is divided into four parts, including, 1st, The General Pathology and Therapeutics of Eye Diseases; 2d, Those diseases which affect the whole organ; 3d, Those which affect its individual parts, or tissues; and 4th, Those which affect the appendages. The parts occupy, respectively, 60, 170, 406, and 82 pages.

A general estimate of the author's style may be formed from his leading paragraph:—"The ocular apparatus may be considered as a direct emanation, or prolongation of the brain. In fact, the eye may be viewed by the anatomist as a kind of miniature brain. Like the encephalon, it possesses a protecting osseous case, (the orbit), completed by a fibro-membranous apparatus, (the eye-lids). Like the cerebrum, it also possesses a fibrous covering, (the sclerotica); a second, which is vascular and serous, (the choroidea); and thirdly, an essentially organic portion, medullary or nervous, the (retina). Remark also that portion of the cerebral pulp which is prolonged in the sheath of the optic nerve, and which expands itself in the deepest part of the organ; likewise, that

considerable artery, which there penetrates it, (A. centralis), and which so strikingly corresponds to the basilar artery; also those numerous nerves, which form a great sphere round the eye, and some of whose branches penetrate its interior; and finally, those magnificent meshes of arteries which supply the ball, the orbit, and surrounding parts, corresponding to the carotid plexuses. All these resemblances naturally lead to the conclusion, that one of the chief causes of eye diseases is to be found in the brain itself, or, at all events, in those constituent elements of the eye which proceed from within the cranium. I am in the habit of, in this way, regarding many of these diseases as affections which are allied to a morbid state of the encephalon, and am often delighted with the practical and beneficial results these views reveal." Pp. 1, 2.

After remarking that the diseases of the heart, and their effects on the circulation, also those of the lungs, have a powerful influence on diseases of the eye, the author observes, that after all, it is in the eye itself, and especially in its coats, that we are to look for the phenomena of diseased function, and the manifestation of diseased structure.

The second chapter of this part of the treatise is occupied with the *Dynamic Conditions* of the eye; and as this doctrine bears upon disease generally, and presents views with which some of our readers may not be familiar, we shall for a moment dwell upon it. Every malady in which there is a simple lesion of the vital forces, such as exaltation, diminution, perversion, &c.—in a word, of the normal rhythm of the functions of the eye, without structural change, is denominated dynamic; in other words, it is inherent in the vital powers of the tissues. Examples of this are to be found in ophthalmia, simple amaurotic affections, photophobia, &c. By vital power, or vitality, is here understood nothing more than organic sensibility and irritability, which have the ganglionic system of nerves as representatives—the agency which produces contractions of the heart and arteries, and which assimilates the food. This ganglionic system, which presides over the functions of vegetable life, communicates, as is well known, with the cerebro-spinal system, by means of the intercostal nerves; and this accounts for the reaction which certain medicines produce upon the brain and the spinal cord, after they have acted upon the other system. The sensorial nerves themselves, and the retina in particular, owe their animal flexibility to the influence of fibriles, which they receive from the ganglionic system, as will be more minutely shown hereafter.

If then we ascend, as we ought always to do, from morbid phenomena to the source of their production,—to the organ tissues affected, we shall easily verify the true state of matters. What, in fact, do we find in these affections? In the ophthalmiæ for example, we find the same conditions as in the phlogoses of other organs; namely, anormal vascular congestion, accompanied with redness, swelling, &c.—an exaltation of the functional rhythm, with an increased flow of tears and other secretions, also increased sensibility, aversion to light, heat, and febrile action. These, in a general way, constitute what, in the Italian school, is called, the *pathological basis*, or *condition*. In this case the condition is unambiguous, every one recognizing that it is of the nature of excitation. In a second example which we may select, (amaurotic affections,) different conditions may present themselves. And frequently this disease is also dynamic, sometimes at the same time being of an asthenic nature. This second dynamic condition is generally encountered in individuals who are exposed to certain morbid poisons, such as belladonna, hemlock, &c. &c. These causes do not operate upon the eye only, but also upon the whole frame. The morbid condition they produce is like the preceding, wholly functional or vital, and consists in a deficiency of stimulation. These two methods of action will be readily understood by reflecting a little upon the vital conditions which constitute the normal condition of the functions. For the normal state of these functions there must be a determined amount of stimulation; the organic life by whose powers these functions are performed being nothing more than the result of the action and reaction of the stimuli upon sensibility. Beyond this amount there is excess of stimulation, and over excitement, and consequently a tendency to the diseases of excitation. On this side of the amount, on the contrary, debility pre-

vails, and a tendency to asthenic disorders. In both alternatives the functions are deranged, and this derangement, in its origin purely vital, by excess or defect of stimulus, constitutes precisely the dynamic state of disease. M. Giacomini has designated the former condition, *hypersthenic*, and the latter, *hyposthenic*—denominations now generally adopted. P. 10.

The next two chapters are occupied with the *Mecanico-dynamic Conditions* of the eye, and the general nature of the diseases of the organ. Under the latter, we have a short discussion concerning ocular therapeutics,—one of the most practical and important subjects which the author considers; endeavouring to vindicate for it the attention it merits, and is so far from receiving. Rejoicing in the advance of pathology, and diagnosis, he contends that therapeutics should not be treated as a mere subordinate appendage, and be left in the hands of naturalists and of chemists. The former of these classes forms its judgment upon the physical and local action of a drug; and if it stimulates the mouth, or is bitter, or excites the skin, concludes that it is a tonic or a stimulant. Hence the immense number of this kind of remedies. But it ought to be observed, that in addition to the local effects, many of these medicines exercise another and far more important agency,—one which is developed only after they are absorbed into the circulating fluid, and so act upon the organic functions. Hence the dynamic action of drugs upon the several functions requires to be carefully studied. This forms a study which is comparatively new: it is now carefully cultivated in Italy, and has as yet extended little beyond it. The chemist, again, regards the human frame far too much in the light of a common retort, and imagines that medicines pass through both machines very much alike. Hence the origin of chemical neutrals, which the author very much regards as the destruction of materia medica. The dynamic power being very much misunderstood, it is clear, that the materia medica it has borrowed from the dreams of the laboratory, are leading us away in a false direction. Ophthalmology has experienced its own share of these unfortunate results, as its special are borrowed from general therapeutics. The fact, however, is, that the therapeutic action of drugs is wholly independent of chemistry, and belongs to the province of physiological observation, and clinical research.

Considerations of this nature lead to the next chapter, on General Therapeutics, (Chap. V). The remedies here enumerated are arranged under three heads; namely: tonic, or exciting remedies;—antiphlogistic, or hyposthenic, and revulsive remedies. We may mention that, under the last of these heads are considered the subjects of cupping, and other local bleeding, warm bathing, general and local, rubefacients, and blistering, and purgatives, and the style in which they are discussed will appear from the following summary. "It follows, 1*st*, That one of the most essential points in the diagnosis of eye, as of other diseases, is the determination of the pathological condition. This is generally dynamic, though sometimes mechanic, and sometimes mecanico-dynamic. The character of the dynamic state is usually hypersthenic; the diseases resulting from genuine weakness being rare. 2*d*, That very frequently there is a connection between ophthalmic disorders, whether acute or chronic, and a diseased state, it may be of the brain, or heart, or of the whole organism. This morbid condition often consists in an occasional or habitual hyperœmia; so that our examination should not be confined to the eye, but should extend to the functional condition of all the organs. 3*d*, That in the examination of the eye we cannot bestow too much attention upon the state of the choroid coat, which is often congested, and the source of many ophthalmic affections. This state is usually accompanied with a sense of fulness in the organ, with headach, and a certain anormal fulness of the bulb. The surgeon, therefore, should carefully examine it with his fore and middle finger,—should feel the eye as he feels the pulse, gently compressing it, and comparing its condition with the normal one. 4*th*, That it is always the enveloping membranes which require special attention in dynamic affections, since the dioptric apparatus has a low degree of vitality. 5*th*, That in the graver diseases of the eye, local remedies are insufficient for the cure. 6*th*, That constitutional treatment alone often suffices for a

number of these diseases, if it be sufficiently extensive, guided by true dynamic principles, and with suitable energy. This by no means interferes with the use of local remedies. *7th*, That in the ophthalmic, bleeding alone may be insufficient, if plethora be not present, and the constitution be affected with scrofula, chlorosis, &c. Direct hyposthenic remedies must then be used. The sufferings of the patient will not, under these circumstances, be alleviated by opiates alone. *8th*, That purgatives are useful in all hyposthenic diseases of the eye, and less as evacuants, than as direct hyposthenic remedies. They are injurious where there is true ocular weakness. *9th*, That in the most severe ophthalmia, such as phlegmon on the eye, and ophthalmia purulenta, we ought to trust not so much to local as to general remedies: venesection alone may be insufficient. To this must be added emetic tartar, belladonna, and especially nitrate of potash, whose efficacy is very great." P. 31.

The sixth chapter is devoted to a careful consideration of collyria,—gaseous, liquid,—and metallic, including the salts of silver, mercury, copper, lead, zinc, potash and soda;—also vegetable and animal applications. We cannot attempt to quote any of the author's remarks, however judicious. As a mere specimen, we extract his remarks respecting cold water, which show, as it relates to hydropathy at least, that there is nothing new under the sun on this point. The case of the venerable Morgagni cannot be read without interest. "In acute inflammation of the conjunctiva, says the Italian physician, the cornea is prone to ulcerate, so that I was much afraid of this calamity, when I suffered at Bologne from an obstinate attack, which was so severe as often to prevent me from sleeping, especially if I did not apply a cataplasm of apple-pulp to my eye-lids. Many remedies were recommended, one of which—cold water, though for a time inconsiderately neglected, I have often found most useful since. Its efficiency was strikingly exhibited in the case of a fellow-citizen, who having, by its means, been cured of an inflammation of the right eye, was soon after seized with an inflammation of the left eye, and after trying many other remedies fruitlessly, was again cured by this one. If you enquire how, for so long a time, I have been free from this disorder, notwithstanding so long continued and constant application, night and day, I must tell you it has been by practising repeated ablution with water fresh from the well, especially in the morning. This water is sufficiently cold to preserve the powers of fibres which have been enfeebled by previous ophthalmia. Delharding some time ago published a work entitled *Prophylactic Specific for Diseases of the Eye*,—which specific was cold water. Morgagni adds, that, at the end of forty years, having neglected his usual remedy, his disease recurred, and he was cured only by returning to it. Celsus is another authority on the same point." P. 50.

An interesting disquisition on glasses (chap. viii.) terminates this first part of the work.

Affections of the whole Globe constitutes the second, which is arranged under seventeen chapters. These are on *Strabismus*, on which there is an able essay, extending to 36 pages, *Traumatic Lesions*, including extra-orbital contusions, *Luxations of the Eye*. *Concussion*, producing *Paralysis of the Retina*, *Luxation of the Lens*, *Rupture of the Iris*, *Cicular Apoplexy*, including *Hyperœmia*, *Extra-Orbital Wounds*, *Lesion of the Periorbital Nerves*, *Periorbital Fractures*, *Palpebral Emphysema*, *Intra-Orbital Wounds of the Periorbium*, *Lacrymal Gland*, *Optic Nerves*, and the *Muscles*; *Wounds of the Globe*, non-penetrating and penetrating, of the *Sclerotica*, and *Cornea*; the *Introduction of Foreign Bodies*; *Burns*; the *Pavaritis* of the eye, *O. Phlegmonosa*, *Hydrophthalmia*, *Atrophy*, *Myopia*, *Presbyopia*, *Diplopia*, *Cicular Neuralgia*, *Spasmodic Affections*, *Ossifications*, *Cithiosis*, *Cancerous Affections*, *Extirpation of the Eye*, *Artificial Eye*, *Melanosis*, and lastly, *Congenital Affections*, *Anophthalmia*, or want of the eye, *Cyclopia*, *Microphthalmia*, *Congenital Opacities of the Cornea*, *Absence of the Iris*, *Eye-Lids*, *&c.*

As a specimen of the execution of this part of the work, we give the subsection on lesion of the periorbital nerves. "An immense number of facts prove that certain wounds of the superciliary, frontal, suborbital and naso-palatine nerves, may produce amaurosis. Dr Mackenzie explains the phenomenon by

referring it to the concussion of the retina, which he believes always exists in these cases; and Mr Tyrrell is of the same opinion. This idea, however, is incorrect; for the blindness does not always occur at the moment of the injury, and often only when cicatrization has been completed. Thus, a young man fell from his horse and wounded the eyebrow across the course of the frontal nerve; where a piece of glass, remaining at the bottom of the wound, produced suppuration. At first the vision was impaired only, but in a short time it was entirely lost.—(Dupuytren.) By the overturn of a carriage, a lady was slightly wounded on the forehead and temple. She immediately became amaurotic; but the disease proved temporary.—(Morgagni.) The lady of a physician of Bologna presented a case which ran precisely the same course; the amaurosis here proceeding on the moment, from a cock having pecked her on the eyebrow.—(Valsalva.) Another individual became amaurotic from a wound over his left eye-brow; but here the blindness was permanent.—(Lawrence.) In another case ambiopia only supervened.—(Ibid.) In two military men blindness succeeded to a slight wound on the part from fire-arms.—(Hennen.) A similar case was more lately witnessed at Algiers.—(Baudens.) The celebrated Abernethy became hemiopic after fracture of the nasal bone, and this from injury of the naso-palatine branch. Wardrop witnessed blindness as the result of a suppurating wound at the lower part of the orbit, and I have witnessed a similar instance in a child. Beer, Weller, Guthrie, and many others report similar cases. Sabatier, in quoting Hippocrates's observations on the obscurity of sight arising from wounds of these parts, introduces also a case mentioned by Camevevius; and others in which slight wounds of the upper eye-lid, near the inner angle, or apparently of the conjunctiva, have been followed by loss of vision on the affected side. La Motte mentions a similar occurrence from the wound of the outer angle; and Hildonus supplies a similar case. Duret and Hoccillier confirm the latter of these statements. Very d'Azir states, that a young surgeon having been struck by the point of a foil immediately on the frontal nerve, entirely lost his sight; the blindness coming on gradually, and being finally complete. From these observations, then, it appears that blindness may supervene from injury of the frontal and nasal nerves." P. 122.

The third part of the treatise is introduced by a summary account of ophthalmic dynamic remedies, one of the most novel, and we should think most important parts of the work; being an able sketch of the new doctrines of the Italian school on this matter. There is brought under review the specific action, general and local, of belladonna, strychnia, mercury, antimony, nitrate of potash, hemlock, digitalis, tobacco, coffee, ergot, turpentine, camphor, quinine, iron, and mineral waters, and lastly, of purgatives. The author's views with regard to the action of mercury, do not appear to be so satisfactory as those which have long ago been propounded by our countrymen Saunders and Dr Farre. We quote some of his conclusions with regard to belladonna. 1st, Wherever belladonna is applied, it produces its effects by absorption, after passing into the circulation: they are most marked on the eye in the vicinity of which it is applied. 2d, These effects are always dynamic or constitutional, apparently operating on the ganglionic system, and consequently upon the sensitive principle of the animal fibre of all organs. 3d, The heart and arteries are very sensitive of these effects through the influence of the ganglionic nerves. 4th, The more vascular an organ, the more responsive is it to the effects of the belladonna; so it is with the brain, eye, and lungs. 5th, The nature of the action of belladonna is hyposthenic, weakening, antiphlogistic, and may be compared to venesection, digitalis, tartrate of antimony, &c. 6th, Its true antidotes are stimulants, ethers, alcohol, opium, &c. 7th, The action of opium being opposite to that of belladonna, they should not be prescribed together. 8th, Belladonna may be usefully employed in the treatment of all inflammatory complaints. It may safely be prescribed so long as its administration is regulated by the law of tolerance. 9th, The action of belladonna on the eye is wholly dynamic, and affects chiefly the blood-vessels; the whole eye, with its muscles, and even the eye-lids, at the same time, experiencing its antisthenic effects. The weakness induced on the retina may be compared to senile amaurosis. 10th, Of the different parts

of the eye, the iris and the ciliary body are the first to own its power, and experience it most. P. 247.

Respecting the nitrate of potash, the author makes the following observations: "With tartrate of antimony and mercury we class the nitrate of potash as a remedy, internal and external, for the treatment of ophthalmia and other serious hyposthenic affections of the eye. I often even prefer it to them, as it never produces vomiting, nor ptyalism. Given in a full dose, this medicine reduces the pulse astonishingly. Its hyposthenic action is so remarkable, that if you do not watch its effects, it will induce decided intoxication, as I have sometimes witnessed, and as details in the *Annales de Thérapeutique*, T. i., clearly prove. I prescribe the nitrate in doses of one or more scruples (grammes) a-day, in small and repeated doses, mixed with honey, or dissolved, when administered, in lemonade. When fever is present, it may be given to the extent of four or five drachms, or even to double that quantity. It is unnecessary to weigh every dose, a couple of ounces (30 or 40 grammes) may be ordered in powder, and half a tea-cupful may be given every hour or second hour. It may also be sprinkled on emollient poultices, and placed over the eyes, especially during the night." (P. 258.)

The third, by much the largest portion of the work, divided into 44 chapters, is occupied with a distinct description of the numerous and varied diseases which affect the conjunctiva, the other membranes of the eye, including artificial pupil, cataract, and amaurosis. It would occupy much space even to enumerate the several diseases which are comprehended in the list, and our closing space prohibits us from describing any of them. The anatomy and physiology of the different tissues precedes the pathology, in our view by much the best arrangement which can be adopted, and which at the same time adds greatly to the general interest of the whole.

The fourth part comprehends the diseases of the appendages,—the orbit and marginal apparatus, and the eye-lid; and gives an interesting description of these important complaints. As a specimen, we conclude with the leading paragragh to the pathological anatomy of encysted tumours occurring in the orbit. "It has been proved that the substance generally contained in these encysted tumours is only a secretion of the envelope which encloses them. In fact, the cysts are truly accidental secretory organs which germinate in the economy, under the influence of certain causes. If one cyst, for example, encloses a fluid limpid like water, or albumen, and another a substance thick as honey or fat; this difference is owing to the nature of the cyst. It is also proved that the primary growth of cysts is not owing to the successive agglutination of the laminæ of cellular tissue, distended and compressed together by a heteroplastic matter, as Hunter and Louis taught. It is moreover, incontestible, that these organs of new formation, are themselves susceptible of diseases analogous to those of the normal parts they most resemble, and chiefly to phlogosis, (*Gendrin, Hist. Anat. de l'infl.*) What is still more remarkable, is, that the internal phlogosis of the cysts, when excited to a certain extent, may produce false membranes; these false membranes again become organized, and form shut sacs concentric to the first. Nor can we deny the products of a purulent membrane, in a purulent cyst. These conditions also belong to cysts which enclose hair and teeth. Pathological physiology truly demonstrated that these may be produced accidentally, and by an operation quite inexplicable by the laws of formation, dental or crinigenous organs appearing in unwonted regions of the body, analogous to those which are not unfrequently found in the scalp and maxillary bones. Some pathologists have even been able to trace, step by step, the different phases which these albuminous cysts undergo whilst engendering the accidental teeth, or other parts. (Lobstein *Anat. Path.*) Another important circumstance is, that in general the outer surface of these cysts is purely cellular, flabby, and slightly adhering to the surrounding parts, so that they can be easily dissected, enucleated, or torn out, whilst the internal or secretory surface is smooth, close, and more or less mammillary. I have touched on these pathological points because there is scarcely a known cyst, melicerous, hydatid, steatomatous, which has not been seen in the cavity of the orbit.

Before proceeding further we shall cite some of the more remarkable of these cases, ..."—P. 646.

Here, however, we cannot follow our author, and must conclude. We are aware that from a few scanty specimens like these, it is not easy to form a judgment of the well-arranged whole. We trust, however, we have vindicated the correctness of the encomium we passed at the head of this article. We feel grateful to M. Rognetta for the pleasure and profit we have derived from his work. We mean to place it for reference in a handy corner of our own shelves, and we should not stand excused if we had not put it within the power of our readers to consider whether they would not wish to do the same.

PART THIRD.

PERISCOPE.

PHYSIOLOGY.

ANALYSIS OF THE MILK OF A HE-GOAT. By J. SCHLOSSBERGER, M.D., formerly Assistant Physician to the Catherine Hospital of Stuttgart, and now Assistant Teacher in Professor Gregory's Laboratory of Research, in the University of Edinburgh.

In no department of her works does nature exhibit more striking and varied deviations from the normal condition, than in the organization that is destined for the propagation of species, and the nourishment of the young. This remark applies to the whole class of hermaphrodite productions, and includes the mammary system, as well as the more special organs of generation. Among the rarer examples belonging to this category, must be included the instances in which the males of animals have supplied their offspring with milk. Medical literature furnishes two instances in which this phenomenon occurred in the human race. One of the most remarkable and best authenticated of these is that recorded by Baron Humboldt, as having occurred in America.[1] In this case the father, during the indisposition of the mother, suckled his child for five months, two or three times a-day, no other nourishment being supplied. The milky fluid in this instance was peculiarly sweet and thick. The other case is given by Häser.[2] Examples of this kind are more common among the lower animals. One occurred in a castrated ape;[3] another in a bull with undeveloped testes;[4] and several have been noticed occurring, as in the present instance, in the he-goat.[5] In all these cases, although the inference that the

[1] Reise in die Æquinoctial gegenden. Stuttgart: 1815–19. Bd. ii. s. 40.

[2] Häser's Archiv., 1844, s. 272.

[3] Stark's Archiv. für Geburtshülfe, iv. s. 755.

[4] Homes' Lectures on Comp. Anat. Lon., 1814. Vol. iii. p. 326.

[5] Bechstein's Gemeinnützige Naturgeschichte. Bd. i. s. 420, and Frorcip's Neue Notizen, 1843, Nro. 551. The latter case, however, according to the remark of an old Swiss, is not so rare, he once even prepared cheese from the milk of a he-goat; we shall see by and by that it is well fitted for the purpose.

fluid secreted was truly milk, was strong, it was not altogether satisfactory. It was founded upon its source,—the mammary gland; upon its general appearance; and lastly, upon its adaptation to the requirements of the young, as are especially manifest in the case recorded by Humboldt. Still, in none of was recorded cases was a chemical or microscopical proof obtained, and therefore, a doubt remained of its being true and genuine milk.

The opportunity for the following investigation presented itself in the case of a he-goat which very clearly yielded milk, during the last summer. The animal belonged to M. Firnhaber, and was reared upon his estate of Neuhof, near Giessen, and through the kindness of Professor Liebig, the author had an opportunity of instituting the necessary researches, so removing doubt, and reaching certainty. The goat was four years old, and during the previous rutting season had given ample and clear proof of his generative powers. In an examination, conducted by Dr Bardeleben and the author, the penis and testes were found of the normal size and formation, and the horns were remarkably well developed. The udders, abnormally developed, lay precisely in the situation where they are usually found in the she-goat, and were each of the size of a fist. With some little force, and as it appeared to them, not without pain, a milky fluid was drawn from the teat, whose quantity was small. As, however, the animal was in the constant habit of sucking his own udders, it was only with difficulty a small quantity could be got. Through the kindness of the proprietor, however, a few ounces were obtained.

The fresh fluid, thus procured by repeated milkings, possessed exactly the colour, consistence, and taste of good milk; and it is remarkable that, although secreted in the immediate vicinity of the odoriferous organs, it had neither unpleasant taste nor smell. Under the microscope it exhibited numerous butter globules, the greater number of which were isolated, and these moved freely upon each other. After the secretion had been full four weeks under observation, some globules were found which adhered tolerably firmly to each other; these were apparently of the same nature as the others, forming a kind of granular substance, similar to what Donné has described in colostrum. They disappeared under the action of ether. In addition, there were a few, and but a few epithelium cells intermingled. The reaction of the milk was scarcely alkaline. After long standing, it threw up a tolerable cream; it showed little tendency to become sour.

6.771 gr. of milk left, on incineration, 0.053 gr. of a nearly white ash, or 0.782 per cent. In 100 parts of this ash there were 41.6 parts of salts insoluble in water,—58.4 parts soluble in water; and these agree with those usually found in milk. For the determination of the quantitative remaining components of the milk, the method proposed by Haidlen was pursued; 17.800 parts of milk heated with 3.204 parts of sulphate of lime, and dried at 100° cent. left 5.858 solid remains, of which 2.654 parts were solid components of milk, corresponding to 14.91 per cent. 5.514 gr. of solid components after extraction with ether, left behind 5.136 parts; 2.12 of solid components of milk, after the extraction of the lime, left behind 0.378 of butter. The remainder exhausted in ether, (5.136) yielded to alcohol, sugar of milk, and salts; and after the abstraction of these, weighed 4.766. Hence, there is reckoned for 2.12 of solid components of milk, 0.370 of sugar of milk, and salts soluble in alcohol. What was united to the lime consisted of casein, and salts not soluble in alcohol; and stood in the relation of 2.12 components of milk to 1.376. Hence, then, in 100 parts of the milk of this he-goat, there are

85.09 water.
14.91 solid components, (of which 0.782 are fixed salts).

In 100 parts of solid components there are

17.83 butter.
17.45 sugar of milk, and salts soluble in alcohol.
64.71 casein, and salts insoluble in alcohol.

Consequently, in 100 parts of the milk of this he-goat, there are

85.09 water.
9.66 casein (with salts).

2.60 sugar of milk (with salts).
2.65 butter.

The alcoholic extract of this milk was specially examined for sugar of milk. This was done by means of the sulphate of copper, and by other agents, and was found to be present.

If we now compare the results above obtained with the heretofore analysis of milk, then the he-goat's milk is peculiar for its richness in cheesy matter; whilst, on the other hand, it is proportionably poor in butter and sugar of milk, as compared with cow's milk. It evidently approaches most nearly to the characters of goat's milk, as these were ascertained by processes which, however, were not altogether satisfactory. Goat's milk contains in 100 parts,[6] according to—

	Boysson.	Luiscius.	John.
Casein,.....	5.29	9.12	10.54
Butter, ...	2.99	4.56	1.17
Sugar of milk,	2.07	4.37	2.34
Water,.....	89.28	81.93	84.93

This instance of a true milky secretion in a genuine male animal may be of some importance in relation to the theory of secretion. The independence of the secretion of milk upon any peculiar state of the blood in the pregnant or lately delivered female animal, appears in this case to be proved; and it moreover confirms the view which maintains that the development of secreting organs is of much more importance for the determination of the specific secretion, than any peculiarity of the blood itself; and that the elements for the production of milk are present in the blood of the male as well as the female. According to this view it is the presence of special glands which determines the conversion of these elements into milk. But, on the other hand, it may be asked whether in the male animal furnishing milk, there is not a state of the blood somewhat analogous to that of parturient females,—a question, however, which lies more in the province of the physician than of the chemist. In a few weeks the rutting season of goats arrives. It will then be interesting to observe if when the usual derivation to the testes occurs, the secretion of milk either entirely ceases, or undergoes any remarkable modification.—*Annalen der Chemie und Pharmacie*, 1844.

On the Period of Puberty in Esquimaux Women. By John Roberton, Manchester.

Having long been desirous of ascertaining the age of puberty in the Esquimaux, I transmitted my inquiries by the annual ship, the Harmony, which for seventy-four summers in succession, has made a voyage to and from the stations in Labrador. This was in the spring of 1843, and I was told not to look for a reply till the return of the Harmony, after another voyage, in the autumn of the present year 1844. The reply in question I have now had the satisfaction of receiving. It is in German, dated Nain, December 12, 1843, and is the production of the Rev. John Zundberg, superintendent of the missions. The uncommon neatness and beauty of the penmanship, as well as the value of the contents, proves, that though written in the gloom of an arctic winter, it is the production of a mind whose energies are in no degree depressed by the influences of so remote, cheerless, and barbarous a residence. The following is a translation, made for me by a Moravian professional friend, conversant with the German language. I trust the following tables will correspond with the object of your inquiries. I could adduce instances of several women, under the age of fourteen, in addition to those in the table, with whom the menses have not appeared.

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[6] Burdach's Physiologie, bd. iii. s. 148.

No. of Esquimaux women.	Age at present.	Age when the menses first appeared.	
1	16	16	
2	21	17	
3	43	14	
4	14	Not yet.	
5	20	14	
6	35	14	
7	15	15	
8	32	17	
9	18	17	
10	39	14	
11	38	20	In our Register.
12	13	Not yet.	
13	24	15	
14	17	16	
15	31	20	
16	12	Not yet.	
17	23	15	
18	17	16	
19	13	Not yet.	
20	14	Not yet.	
21	17	15	

I have known an Esquimaux give birth to a child at fifteen and three-fourth years. The earliest age at which I have known a female marry is fourteen years. The common age of marriage at present is from seventeen years upwards, not much earlier. The greatest age at which a woman has born a child, is, according to the register, forty-four and a half years. There are several others at forty-one years. The following table will show the fruitfulness of the Esquimaux women:—

Women.	Age at present.	Children.	
1	61	8	
2	59	9	
3	54	7	Menses have ceased with these persons.
4	46	8	
5	41	9	
6	64	7	
7	54	10	
8	42	8	
9	32	6	
10	30	5	
11	31	5	
12	33	7	
13	36	6	
14	33	6	
15	34	4	These persons still menstruate.
16	27	3	
17	33	5	
18	32	4	
19	21	2	
20	32	4	
21	48	12	

Among sixty women there are only two who have had no children.

On considering how this result might, in a satisfactory manner, be compared with data as to the period of puberty in England, I adopted the following method:—Having by me three parcels of sheets containing entries of the ages at which menstruation occurred in 450 instances, collected by two friends, Mr Clough, and Mr Gee, and myself in the year 1829; I took from each of the three parcels, (for each was known by its being in a different hand-writing) the first sixteen entries; and now subjoin them along with the sixteen Esquimaux instances, in this tabular form.

Age.	From Labrador.	By Mr Clough.	By Mr Gee.	By myself.
11	...	...	2	...
12	...	...	...	1
13	...	...	2	2
14	4	2	...	5
15	4	5	3	3
16	3	3	2	2
15	3	4	5	1
18	...	...	2	2
19	...	2	...	...
20	2	...	...	...
	16	16	16	16
	Average age, $15\frac{5}{16}$ yrs.	Average age, $16\frac{1}{16}$ yrs.	Average age, $15\frac{3}{8}$ yrs.	Average age, $14\frac{7}{8}$ yrs.

Thus it appears that when brought to the test of this kind of comparison, the fairest I could think of, there is no difference, certainly no striking difference, between the age of puberty in the Esquimaux, and in the women of our own country; neither later, owing to rigour of climate, nor earlier, owing to race. It is true there are no instances in the column for Labrador, of menstruation occurring under the age of 14; but, on the other hand, as a counterpoise, it must be noticed, that half the sixteen Esquimaux menstruated under 16 years of age, while, with respect to the three English columns of figures this can be said of one of them only.

When this fact is considered in connection with the answers to several of the queries, only one conclusion remains, namely, that for anything which appears in this document, the age of puberty in Labrador is the same as in our own climate.—Abridged from the *Edinburgh Med. and Surg. Journal.*

Early Marriages, so common in Oriental Countries, no proof of Early Puberty. By John Roberton, Surgeon, Manchester.

Mr Roberton, in two papers on the natural history of puberty, published in the *Edin. Med. and Surg. Journal* for October 1832, and July 1842, endeavours to prove that puberty does not take place at an earlier age in warm climates than in cold, and that early marriages and intercourse between the sexes, is not owing to any precocious development of the genital organs in southern climes, but to the moral degradation of the people. In his present essay, from which we make this abstract, he shows from many authorities, that formerly in England, and more especially among the gentry, marriages were contracted at a very early period of life, and that at the present day, the same state of things occurs in all those countries in which the people are still kept under by political and religious slavery. Some very curious customs and facts are given, for which, to those most interested in the subject, we refer to Mr Roberton's paper; and we shall conclude by merely giving the deductions which he thinks himself warranted in forming from the investigations he has made.

"1*st*, That in England, Germany, and Protestant Europe in general, early marriage, that is, marriage about the age of puberty, would seem to be comparatively rare.

"2*d*, That early marriage prevails among the uncivilized tribes which wander within the arctic circle; as it likewise does in all cold countries, without an exception, the inhabitants of which are in a state of ignorance and moral degradation.

"3*d*, That throughout European Russia, which is confessedly low in civilization, extremely premature marriage was the custom at no distant date.

"4*th*, That in the present day, in the most southerly countries of Europe, where the people are immersed in superstition and ignorance, marriage is early.

"5*th*, That in Ireland, which, as to its moral condition, somewhat resembles the last mentioned countries, the marriage union takes place among the Roman Catholic population at an age probably almost as early.

"6*th*, That in England, about two centuries ago, when debasing political and social circumstances combined to favour the practice, early marriages were general, at all events in the upper ranks.

"7*th*, That in all the countries to which reference has been made, juvenile marriage is invariably seen as an attendant on ignorance and moral debasement, and this without reference to *climate*.

"8*th*, That, consequently, it is perhaps allowable to infer, that early marriage in oriental countries, (which has generally, in the absence of all proof whatever, been ascribed to precocious puberty,) does solely depend on the same moral and political causes as elsewhere produce it; more especially as those causes are well known to exist, at present, in an aggravated degree, in all oriental and intertropical climates.

"9*th*, That instead of ascribing early marriage, so prevalent in our Asiatic dominions, to precocious puberty, (in the absence of all evidence whatever of the fact,) it would be desirable to try moral and legislative remedies, with a view to the removal of a practice so injurious,—a practice which seems to be incompatible with social improvement."—Abridged from *Edin. Med. and Surg. Journal* for July 1843.

SURGERY.

Observations on Cleft Palate and on Staphyloraphy. By William Fergusson, Esq., Professor of Surgery in King's College, London, [With Report of Discussion in Med. Chir. Soc. of London, Dec. 10, 1844.]

The author commences his paper by making some general remarks on the Operations for Cleft Palate, performed in this country and abroad. He then proceeds to give a detailed account of a dissection which he had the opportunity of making of the muscles which operate upon the soft palate, in an individual who had both the velum and a portion of the palate cleft. This description is followed by an examination of the opinions of different eminent physiologists concerning the motions of the velum palati and its arches during the acts of deglutition, and by the author stating his own views as to the actions of the various muscles when the palate is cleft. This part of the subject he further illustrates, by describing four different states in which the flaps on each side may be seen upon looking into the mouth of a person who has a split palate, and irritating them in different ways. By pursuing this course of anatomical and physiological inquiry, he arrives at the following conclusions:—1. That the flaps are slightly drawn upwards and to the sides, where the levator palati contracts. 2. That when the levator palati and palato-pharyngeus act strongly and together, the flaps are so forcibly drawn from the mesial gap, that they can scarcely be distinguished from the sides of the pharynx. 3. That the flaps are forced together, and the edges at the posterior part of the fissure come into contact when the superior constrictor muscle contracts, during the act of deglutition. 4. That the circumflexus palati possesses but a feeble power over the flaps. 5. Lastly, the fibres of the palato-glossus were very imperfectly developed in the specimen in his possession. The chief object of his paper is to communicate a novel plan of operating in staphyloraphy, founded on the above investigations, and which he has put in practice, with most flattering results, in two cases, during the last twelve months. The principle of his new proposal is to divide those muscles of the palate which have the effect of drawing the flaps from each other, and widening the gap between them, when they contract, so that the stretched velum may be in a state of repose, and the pared edges may not be pulled asunder by any convulsive action of the parts during the process

of union. In other words, he advises, as an important accessory to the operation of staphyloraphy, the division of the levator palati and palato-pharyngeus muscles, and, if requisite, the palato-glossus. In bringing forward this plan he reviews the different modes of operating which have been pursued by numerous distinguished surgeons who have written on the subject; and concludes, by entering into several minute details regarding the steps in his own operation, and by describing the particular forms of instruments which he has found best adapted for his proceedings. The preparation of cleft palate, a dissection of the parts in the usual condition of the throat, a variety of diagrams, instruments, &c., were on the table, to illustrate the views of the author.

Mr Stanley called the attention of the society to the anatomy of the cleft palate, as described by the author, who, he was sure, would be anxious to know whether any gentleman present had ever dissected the parts in that condition, and what observations he had made on the subject.

Mr Cæsar Hawkins wished to know the age of the patients upon whom Mr Fergusson had operated? and whether in these cases the fissure involved the hard palate as well as the soft?

Mr Fergusson answered, that he had acted in those cases in accordance with a rule which had been universally agreed upon among practical surgeons,—viz. that the patients should be of an adult age; and the parties alluded to had been so. In neither instance had the fissure involved much of the hard parts, nor did he think that such a condition made much difference as regarded the operation which he proposed; for, as stated in his paper, the soft tissues alone were under the influence of the motor powers which he had pointed out; and in the event of an operation similar to that followed by Warren, it was evident that there was no motory influence likely to affect the tissues dissected from the bones. There were some casts on the table exhibiting the condition of the cleft in the hard palate, and it would be apparent, on examining them, that the soft tissues, if dissected and brought downwards, would meet in the mesial line with great facility.

Mr Stanley remarked that the explanation given by the author of the paper, of the manner in which persons affected with cleft palate were enabled to swallow food without its passing upwards into the nostrils, and the recommendation to divide the muscles, which were described as moving the palate, constituted the principal novelties put forth, and were highly deserving of consideration. He should wish to hear some observations on these subjects; or were the novelties such that the members were not prepared to discuss them?

Sir George Lefevre regretted to find a paper of such magnitude likely to be passed by without eliciting any observations. He would ask Mr Fergusson how long it was after the operation before the fissure was perfectly closed, and what was the effect on the power of speech? He expressed his opinion that a paper of greater importance and interest had not been read before the society for a long time, and trusted that the discussion would not be suddenly closed.

Mr Fergusson, in answer to the queries of Sir George Lefevre, noticed that he had referred to the cases on which he had operated, more with the purpose of showing that he had some proof on the living body in testimony of the correctness of his views, than for the purpose of detailing particulars. But as Sir George had questioned him on the subject, he should be happy to give a brief history of the two examples in which he had performed the operation. The first case was that of a young gentleman, seventeen years of age, who suffered under this congenital defect. He had arrived at that period of life when he felt anxious to do something for himself, and as his interest lay with the army, he had prospects of a commission, but felt conscious that his chance was very indifferent unless something could be done to improve the tone of his voice and articulation. When he was first consulted about the case, the gap appeared so large that he had not been over sanguine as to the success of the operation, in so far as regarded union; and as to the tone of voice, he could only hold out hopes that it it would be improved; for the experience he had himself with reference to the voice was not such as to incline him to say much on the subject.

The young gentleman was willing to submit to any operation which should give a chance of improvement; and accordingly a proceeding had been followed, such as that described in the paper. Unfortunately, a part of the gap had opened again; but some months after, the patient cheerfully submitted to another operation, which had been attended with complete success.

He well remembered what attention he had bestowed to the first sounds which the patient was permitted to make. He observed a decided improvement; yet, on the whole, when the patient was allowed to use his voice freely, he had been disappointed; the tones and mode of articulation remained much the same as before the operations, and continued so until the party placed himself under a teacher of elocution. About eight months after the operation, this patient went under the tuition of a gentleman well known to the profession and the public, for the wonderful changes he had effected on the voice and articulation—Mr Hunt,—under whose instructions the improvement had, in a short time, been amazing; so much so, indeed, that he (Mr F.) had no doubt that the patient would be deemed eligible for the profession to which he aspired; and he imagined, also, that when this young man returned among his friends, their astonishment would be equal to that expressed by the friends of Mr Stephenson, the party on whom the operation was first successfully performed by Roux, when they heard his voice, on his appearance among them.

The other case was that of a young lady, also about seventeen years of age, who was so conscious of her great defect, that she seldom attempted to speak, preferring to remain silent when in company. She was willing to submit to any operation which should offer any chance of improvement. The proceeding had been successful in her case. He thought that it would be improper not to mention, that although he had stated in the paper, that union had been complete, their still remained, in this instance, a small aperture in front, which, however, he had no doubt, would be closed by and by. It must be known to those who are familiar with the histories of these operations, that they occasionally have to be repeated, and that apertures remain for some time after, until closed by the use of caustic or cautery. In this example, it might be said that the patient still required to learn to speak; and he imagined, that if placed under an able teacher of elocution, she would soon be able to articulate with facility. As regarded the tone of voice, he could not from his own experience say much, but had questioned both Drs Mutter and Warren, when they were in this country last summer, on the subject, and he had learnt from them that they had reason to be disappointed in some instances. It was easy to tell, in the first few days, whether the union was likely to be successful. In three, four, six, or ten days, the stitches were removed, and if the parts then kept together, there was nothing further to apprehend.

Whilst on these subjects he would refer to the history of a case lately told to him by Sir B. Brodie. Sir Benjamin had operated successfully on a young gentleman of high connexions, but his power of speech was in no degree improved, until he had taken lessons in elocution, when the change was so great, that the party soon after obtained a commission in the army.

Dr Gregory inquired whether, in either of the cases, mechanical means had been tried, prior to the performance of the operation, and whether they had produced any result; if so, of what nature? He should also be glad to know from Mr Fergusson, the results of his experience of mechanical applications in such cases.

Mr Partridge wished to ask Mr Fergusson whether there existed any difficulty in the elevation of the soft palate after these operations, and whether there seemed any difficulty of deglutition afterwards?

Mr Fergusson, in answer to Dr Gregory's questions, stated that no mechanical means had been adopted in either of the cases alluded to, and he himself had no experience regarding artificial palates. He believed, however, that there were gentlemen in the room well qualified to give their opinions on such matters. Mr Partridge's question, he (Mr Fergusson) imagined, led to a wide field of controversy; for he found that the highest authorities differed in opinion as to the action and condition of the soft velum during deglutition. For his own

part, he imagined that there was but little movement in it at that period. He could say, however, that in one of his patients—the case which had been longest under his notice—the movements seemed much the same as in the natural palate. He felt satisfied that he could observe the action of the levator palati, just as in the well-formed parts. This subject was alluded to in the paper, and he had no doubt that the levator palati had formed new adhesions to the velum. It was worthy of remark, that during the early attempts at deglutition after the operation, the fluid or bolus was slipped backwards with great gentleness. The tender state of the parts, as well as the caution of the surgeon, put the patient on his guard on such occasions. At first, too, the soft velum was so indurated and thickened, that the patient could use little freedom with it; but in the course of time it assumed more of a natural condition, and then both deglutition and speech were much facilitated.

Mr Shaw remarked, that Mr Fergusson's not laying much stress upon the action of the circumflexus, or tensor palati, might by some be deemed a weak point in the paper, as it might be supposed, that if it were not divided, its action might tend to separate the lips of the wound. After some reflection on the subject, he himself was not inclined to attach much importance to its effects on the soft parts, but would be glad to learn Mr Fergusson's opinion on the subject.

Mr Fergusson stated, that he had mentioned in his paper his opinion, that this muscle had but little control over the moveable parts. He had at one time supposed that it had considerable influence; but, on a careful examination, both in the preparation referred to, and in the natural state of the parts, he felt satisfied, that the power of the muscle was not at all likely to interfere with the result of an operation. The shape, development, and course of the muscle, were all such as to convince him on this point, and he referred, in corroboration of his views, to a dissection of the healthy parts on the table in the room. The word tensor, perhaps, implied, in the estimation of some, a greater power than the muscle in question really possessed. The motion was scarcely more than perceptible; it was a mere act of tension.

Mr Partridge inquired whether the circumflexus, or tensor palati, was not remarkably small in the preparation which had been exhibited?

Mr Fergusson replied, that he did not think so; in fact it appeared to him, that the muscle was in reality larger than in the natural condition; and also, that the action was in some degree more apparent in the specimen of cleft palate, than where the velum was entire.

In answer to a question by Mr Henry Charles Johnson, as to the regurgitation of food into the nostrils, after the operation, Mr Fergusson explained, that the partition made by the operation seemed to have the effect of completely preventing the escape upwards of all articles of food and drink.—*Lancet.*

On Excision of Piles. By Dr Druitt.

If the surgeon be determined to excise external piles, the only safe way of doing so, is as follows:—When the tumour is protruded, the base of it should be transfixed by a long needle, which will prevent it from returning into the anus. Then it may be cut off; and the cut surface being exposed to the air, will not bleed so profusely; or, if it do so, it is easy to apply cold, astringents, or ligatures.—*Prov. Med. Journal*, Dec. 23, 1844.

Gun-shot Wound of the Brain. By M. Blaquiere.

M. Dubois (of Amiens), in the absence of the secretary, read the correspondence to the French Acad. of Med. on the 10th Sept. last. Among other communications, it contained a paper of M. Blaquière (from Mexico), detailing the particulars of a case of wound of the cranium by fire-arms, the history of which was extraordinary as well as curious. The subject of it was a young child, who, through carelessness, was shot by a pistol of large size, the ball penetrating at one temple, and making its exit at the opposite. These wounds, on being exa-

mined, allowed the probe without resistance to penetrate to the depth of twenty lines. The child lived twenty days without experiencing any other annoyance than his sleep being somewhat disturbed. His intellectual faculties appeared perfect; and his whole behaviour was as gay as usual. On the twenty-first day, matters suddenly changed for the worse. Symptoms of violent inflammation of the brain showed themselves, under which he rapidly sank. On dissection, it appeared that the ball had traversed the brain from side to side, near its base, and had there produced marked mischief.

This case was referred to a commission.

M. Moreau inquired what was the state of vision; and was informed that it was perfect. He then stated that he had seen a case precisely similar, as to the intellectual faculties; but in which vision was lost, the optic nerves being implicated.

Polypus of the Ear. By M. Bonnafond.

M. Bonnafond, recently read a memoir upon Polypus of the Ear, in which he maintained the following propositions.

1st, That polypi of the ear may be divided into those which have their origin upon the sides of the canal, and those which grow from the membrana tympani. These are alike the result of a change, more or less important, of the tissues from which they are developed.

2dly, As to their *seat*, M. B. has observed, that they occur much more frequently near the membrana tympani than near the orifice of the canal; and that those which are connected with the membrana tympani have a broader base than those which arise from the canal.

3dly, As to their *importance*, those which are composed of spongy tissue, and are vascular, cæteris paribus, are more important than those whose composition is more consistent; because the former always indicate that the neighbouring bone is implicated. In this case, as in others, the polypi are important solely on account of the cause which induces them—of the obstacle they present to the natural discharge of the secretion, normal and abnormal, and to the compression which, when large, they produce upon the sides of the canal; and especially upon the membrana tympani.

4thly, Regarding the treatment, M. B. employs *extraction*, especially in the way of torsion, for polypi with their origin in the sides of the canal; and the *ligature*, and in preference, *excision*, for those which are connected with the membrana tympani. As to cauterisation, M. B. considers it quite insufficient for the destruction of polypi which have attained any considerable size. The whole of these operations are executed by means of instruments of the author's invention, and whose exhibition he reserves for a future meeting.

5thly, After the operation, M. B. cauterises the seat of the polypus, by means of the solid nitrate of silver, introduced by the porte-caustique, straight or crooked, according to circumstances. Ulcerations of the canal, of the membrana, and of the cavity also, with injections, either of the nitrate of silver, acetate of lead, or sulphate of alum. Whilst employing these means, he also insists upon a general treatment appropriate to the cause which induces the affection of the ear, and originates the aural polypus.

6*th*, Finally, M. B. terminates his communication by mentioning some nervous phenomena he has observed during his operations. Thus, when a polypus situate upon or near to the membrana tympani is pulled gently by a pair of forceps, the patient experiences a sensation which runs along the corresponding side of the base of the tongue, and which he compares to that which would result from the application of some body that was cold, or somewhat acid; whilst this sensation is altered into one of smart pain when the polypus is cut. If, after its excision, nitrate of silver be applied to the pedicle, besides the local pain which naturally results, the patient experiences an acute pain at the external angle of the corresponding eye, producing a flow of tears, and suffusion of the conjunctiva. These phenomena are readily explicable from the several nervous communications. But why cauterisation should act on the nervous

filaments going to the angle of the eye, and excision on those going to the tongue, is not so readily accounted for.

SPONTANEOUS EXPULSION OF THE HYOID BONE. BY M. ROZAT.

The remarkable occurrence of the spontaneous expulsion of the hyoid bone was communicated to the Acad. of Med. on the 1st October last, by *M. Rozat* (of Bordeaux). The patient was an unmarried lady, aged 41, of rickety constitution, but enjoying good health. At the age of 36, she began to be annoyed with glandular swellings round the lower jaw, accompanied with slight cough and difficulty of respiration, resisting appropriate treatment, and becoming the longer the worse. After several years, expectoration supervened, sometimes thready, sometimes foul and thick, and sometimes streaked with blood; occasional fits of suffocation also manifested themselves. To these colliquative sweats were added, marasmus, and subsequently aphonia, permanent laryngeal pain, and a constant pricking sensation. Often she hawked up purulent matter without any attendant cough; it was a simple clearing of the passages occasioned by a rending sensation about the throat. The condition of the patient seemed quite desperate, when, on one occasion, experiencing a paroxysm worse than any, of insupportable and tearing pain in the pharynx, of suffocation and cough, with much convulsive agitation, and an attempt at vomiting, she spat out a large bone. This was five years after the first appearance of her malady.

After this happy deliverance the relief was most marked, and the symptoms entirely disappeared. The bone expelled, when examined with care, is clearly the hyoid. The author has supplied a sketch of the bone with the description, which removes all doubt on the point.

The form of the patient's neck has been modified by the circumstance; its upper portion becoming flattened and broader. In the part which was occupied by the hyoid bone, there is felt below the lower jaw, and somewhat laterally, a slight degree of tumefaction which is pliable and elastic. The lymphatic glands have resumed their normal size. A certain degree of embarrassment and difficulty still remains as connected with deglutition, whilst the aphonia has ceased, and the voice has resumed its natural tone.

STONE IN THE BLADDER IS RARE IN BOSTON, U. S.

Dr John C. Warren publishes, in the *American Journal of the Medical Sciences* for October 1844, a paper on lithotomy, from which it appears that Stone in the Bladder is a very rare disease in Boston. He says, "In the course of forty years, I have been called on to perform all the operations of lithotomy, which have been done during that period, in the city of Boston. The whole number has not exceeded twenty-five, inclusive of lithotrity cases, in a population which, during the period mentioned, has increased from about 26,000 to more than 100,000. Of the twenty-five persons thus operated on, not more than three were natives of Boston, or its vicinity; the others came from the remote parts of Massachusetts, from New Hampshire, from a calcareous district in Maine, and from Nova Scotia. Perhaps it may be proper to add, that, of the cases I have operated on, two have died. It may be stated that Boston and its immediate vicinity contained no calcareous rocks; that the spring water of Boston is abundant in muriatic salts, and that the whole of this region is exempted from intermittent fever."

EFFICACY OF THE EXTRACT OF GREEN WALNUT SHELLS, IN CHRONIC CONGESTION OF THE TONSILS. BY DR BECKER.

In the *Medicinische Zeitung*, there is published, by Dr Becker, a formula for a preparation, which he has employed successfully, in the case of a boy afflicted with congestion of the tonsils. The tumefaction had taken place many years previously, and was then so extensive, that speaking had become very difficult; and respiritation often impossible during the night. M. Becker advised the fol-

lowing solution to be applied with a brush.—*Extract of green walnut shells*, 4 *grammes; Distilled waters*, 60 *grammes. To mix and dissolve according to art.*

This was so prompt in its effects, that the congestion of the tonsils had disappeared before the whole of the solution had been used.—*Journal de Médecine*, January 1845.

PRACTICE OF MEDICINE AND PATHOLOGY.

On Syphilitic Chlorosis and its Treatment. By M. Ricord.

It is often erroneously supposed respecting venereal diseases, that these consist of a single disorder, which ought constantly and exclusively to be met by one only remedy, viz. mercury.

The following remarks of M. Ricord tend to combat this error, whilst they at the same time, enrich the special therapeutics of these diseases with a mode of treatment, the good effects of which have been extensively witnessed in the practice of the author.

M. Ricord first lays down the principle, that one of the first effects by which the syphilitic diathesis manifests itself, is an invariable alteration of the blood. But does this alteration consist in an increase or diminution of the globules? This question regulates all the others. In the numerous researches instituted in those attacked with syphilis, alongst with M. Grassi, chief pharmacian to the Hôpital du Midi, M. Ricord constantly found that the number of globules was diminished in various proportions, and at times to such a degree that it attained the maximum of diminution observed in anemia. It is to this impoverished state of the blood that M. Ricord applies the term syphilitic chlorosis; it has numerous relations with the other species of chlorosis. To it, in the first place, must be attributed that peculiar colour of the skin observed in those affected with constitutional syphilis. As in chlorosis, the physical and moral state of depression, indicate disorder of the circulation; the bad complexion and dull eye clearly show that the blood no longer possesses its healthy properties.

Syphilitic chlorosis generally exists previous to the appearance of any secondary or tertiary symptoms. Its principal characteristics, besides the general aspect which we have just noticed, are a state of extreme lassitude, pains, with exacerbations at night, in the neighbourhood of the joints, but without swelling or change of colour in the skin, and usually neither produced nor aggravated by pressure. Headach, neuralgia of the fifth pair, and paralysis of the facial nerve, are also pretty constant symptoms of this state. Alopecia, enlargement of the posterior or lateral cervical glands, or of the mastoid glands alone, complete the series of phenomena, which are rarely preceded or accompanied by a febrile state.

This peculiar state of the blood presents an element of the greatest importance when viewed as an indication in regard to treatment, becoming continuous and aggravated when the syphilitic infection gives rise to secondary or tertiary symptoms, it may continue in different degrees, after their disappearance, or under the influence of modifications accruing in the system, either from treatment or any other cause.

The first conclusion to be drawn from these considerations, is, that syphilis being an anemic disease, or at all events complicated with anemia; the antiphlogistic method of treatment is a dangerous one, laying aside any partial or local inflammatory phenomena, which may accidentally require sanguineous depletion.

The second conclusion is the necessity of a restorative diet, and the application of those special remedies, which experience has demonstrated to be efficacious in chlorosis.

"The treatment which I have adopted," says M. Ricord, "consists in the combination of preparations of iron and mercury, either for the chlorosis, or

other symptoms, provided there exists no counter indication. In general I give the preference to the pills of Vallet, in the dose of 6 to 18 a-day. I prescribe, at the same time, the proto-ioduret of mercury, in the dose of from 5 to 30 centigrammes, along with a decoction of hops or soap wort, which, in my opinion, is much superior to sarsaparilla. For the disorders arising during the transition from the secondary to the tertiary symptoms, mercurials combined with the ioduret of iron, or still better, the ioduret of potassium, are the most efficacious for altering the state of the blood. The same result may be obtained from the ioduret of iron or ioduret of potassium alone, in the tertiary symptoms."—*Gazette Médicale*, November 1844.

On the Presence of Gravel in the Bellinian Tubes (Tubuli Uriniferi) of the Kidney of New Born Children. By Dr J. Schlossberger, formerly Assistant Physician to the Catherine Hospital, Stuttgart.

The formation, and still more the presence, of calculi in the calyces of the kidney, and throughout its whole *excretory* apparatus, as in the pelvis, ureters, bladder, and urethra, have both been well studied and described; whilst the formation of calculi, or gravel, in the *secreting* portion of the urinary system, in the *tubuli uriniferi*, has scarcely been noticed, either in the literature of pathological anatomy, or in the chemistry of healthy or morbid parts. It is, notwithstanding, a fact, that this phenomenon occurs so frequently in new-born-children, that Dr Engel of Vienna considers it as a normal appearance, and dismisses its consideration in a very few lines. A normal uro-lithiasis, however, if it really exist, would be no less worthy of observation, than its occurrence as a pathological phenomenon.

The first physician who, so far as the author knows, noticed gravel in the tubuli-uriniferi of new-born children, was Billiard, in his classical work on the diseases of children. He describes the appearance as consisting of yellow streaks in the parenchymatous portion of the kidney, and associates it with that well-known disease the *icterus neonatorum*. Denis also relates that he has often found sand in the kidneys of children; whilst Bertin, Rayer, and Valleix, scarcely at all allude to it. On the other hand, Charcelay, in the *Gazette Médicale de Paris*, of 25th September 1841, gives numerous cases of it, considering the deposition in the tubuli as connected with *nephritis albuminosa* and *œdema neonatorum*. Of the correctness of these opinions he furnishes no proof. Dr Cless also relates several cases; but apparently without having particularly investigated the nature of the disorder.

Without dwelling longer upon this introductory sketch, the author proceeds to a description of the appearances themselves. If the kidney of a new-born child be divided into two halves, in the usual manner, it will be observed, on the exposed surfaces, that the straight tubuli, (tubuli Bellini) from the papillæ to the cortical surface, are most beautifully injected with a fine powder, varying in colour from red to a bright yellow. By gentle pressure on the tubes, the powder may be pressed out into the pelvis of the kidney, along with a quantity of fluid, which is rendered muddy by the fine granuli it contains. By examination with the microscope, this powder but rarely presents a crystalline form; the particles usually consist of small and slender granules, similar to those which occur in many of the more common urinary deposits, and which are formed of urate of ammonia. From chemical examination it appears, 1st, That the composition of the yellow powder is not always the same; and, 2dly, That uric acid and uric pigment are always present. When it is heated with nitric acid, (and especially when a few drops of ammonia are added), ebullition takes place, and a beautiful red colour is produced. In water, or alcohol, the powder is scarcely, or at all, soluble; but it is readily soluble in alkalies. In some cases when cold nitric acid is added to the object-glass of the microscope, the yellow colour passes into a peculiar green colour; but this is rare. When brought to a red heat, the powder sometimes leaves the traces of fixed bases. These results correspond with the views of Rokitanski, namely, that the deposit of uric acid is by no means rare in the urinary canals.

The author next passes to the description of the cases which had been observed by himself. He had opened the bodies of 49 children, during the years 1841 and 1842, in the Catherine Hospital; and in 18 of these had observed the yellow injection of the kidneys. Upon the diseases of which these children died there is little to remark. It is evident, however, that the presence of the peculiar deposit does not depend upon any one specific complaint. Nor was any mechanical obstruction ever found in the ureters. In a large majority of cases in which the deposit was found, the kidneys were evidently in a state of anœmia, but otherwise they were perfectly healthy.

If inquiry be made into the cause of this deposit, it appears that Charcelay regarded it as arising from inflammation, and as a constant sign of albuminous nephritis, in new-born children. The very cases, however, which are adduced by this author, do not support his opinion. On the contrary, the appearances were found associated with diseases of the most diversified kind; generally without a trace of inflammation, and with the kidneys quite devoid of blood. Billiard, again, regards the phenomenon as a consequence of icterus, and erroneously considers it as owing to the serum being tinged with bile. The author has discovered the colouring matter of bile in the deposit in some instances; but these have been rare; whilst, on the other hand, uric acid was seldom, if ever, wanting. He also mentions several cases in which the deposit was present, where no icterus had prevailed; and others in which there was complete jaundice, and yet no trace of deposition. Besides, the term icterus, as usually employed, is far from definite; expressing merely a symptom, the yellow hue, which may be produced by very different causes.

The author states that he has found gravel in the kidneys of new-born infants to arise chiefly from two causes; namely, first, the relative or absolute predominance of uric acid, or uric salts, and of the colouring matter of the urine; and, 2dly, from enfeebled powers in the generation of animal heat in many new-born infants. The exciting cause of the former of these occurrences he ascribes to great intestinal disorder. He has uniformly noticed this disorder as the common and fatal disease of infants, which may be named *atrophia acuta*, and whose presence is manifested by diarrhœa, vomiting, &c. &c. But the assimilating process acts powerfully upon the function of respiration, and this again reacts upon digestion, and uric acid appears in abundance as a product of the incompletely changed elements. The free generation of acid in the intestinal canal is acknowledged by some practitioners; and if this really occurs, it will play a marked part in producing the disorder. Again, in proof of the agency of the latter cause—the diminished temperature of the body—in many of the diseases of new-born children, the author adduces cases from Billard, Trousseau, and others, in which the complaint, named *atelectasia pulmonum*,—the second stage of pneumonia, also atropia and tetanus neonatorum, are assigned as examples of disorder produced by this cause. As M. Majendie regards a similar diminution of temperature in aged individuals, as a cause of the frequency of calculous disorders, so our author considers the same phenomenon as a cause of gravel in new-born infants; and the more so, as he finds in them that the urine is saturated with numerous salts at the temperature of 30° (centigrade), which, on cooling, are partly deposited, after some hours, from urine, which at first was clear.

In conclusion, the author discusses the question, why gravel should appear in the tubuli uriniferi and why it should be so common in new-born infants, and so rare in adults. No satisfactory explanation can be found in the size of the tubuli; because, according to Huscké, these are larger in the child than in the adult. By possibility the deposit may occur in some cases as the result of spasm of the papillæ, or of compression from cold; from some foreign matter, or from the stagnation of the urine which takes place at birth. All this, however, is mere hypothesis. Nor is it much more accurately ascertained whether this interesting phenomenon is the primary cause of regular calculi occurring either in the kidney, or in the excretory apparatus. It is, however, worthy of remark, that in many animals, especially serpents, a precisely similar deposit of uric acid has long been known to exist.—Abridged from *Wunderlicks Archiv. für Physiologischen Heilkunde. Tübingen*, 1842.

On Hydatid and Hydatiform Degeneration of the Kidneys of the Fœtus. By M. Bouchacourt of Lyons.

In the number of this Journal for August, 1844, Dr Cormack published a paper, entitled, "Intra-Uterine Cystous Disease of the Kidney," in which he states, that renal cysts in the fœtus, as in the adult, are of three kinds, viz. 1st, Hydatid cysts; 2d, Cystous disease, *from* obstruction of uriniferous vessels; 3d, Cystous disease, *without* obstruction of uriniferous vessels. M. Bouchacourt's paper contains several of the cases cited by Dr C., and it does not contain the original case of non-hydatid cystous disease, without obstruction of uriniferous vessels, which Dr C. published, and illustrated by drawings.

The memoir of M. Bouchacourt contains nothing particularly worthy of extract, except the following very interesting case, communicated to him by M. Nichet of La Charité of Lyons. It is entitled, "*Hydatid Degeneration of the Kidneys and Pancreas of a Fœtus; Difficult Labour; Embryotomy; Rupture of the Uterus; and Death of the Mother.*

"During the afternoon of the 12th April 1839, M. Nichet was called into the lying-in ward, to Catherine Possi, aged 23, a primi-para, admitted at one A.M. in labour. The dilatation of the os uteri was proceeding slowly: the breech was presenting, with the sacrum turned to the right. When the surgeon arrived, the thighs of the child had been at the vulva for a long time; and the traction which had been resorted to had been of no avail, in consequence of the abdomen of the child being impacted in the brim of the pelvis. The hand being introduced, the abdomen was discovered to be of an enormous size; as it felt soft, M. Nichet suspected ascitis, and made a puncture below the umbilicus, but no fluid escaped. On carrying the hand a little higher, towards the thorax, the latter was discovered to be very much enlarged in its antero-posterior diameter, although it had lost something of its size by the approximation of the ribs. A sharp hook, applied in an intercostal space, had no effect in turning the child. Its thoracic abdominal walls were then extensively torn, for the purpose of removing the obstructing body, whatever that might be. The surgeon laid hold of a nodulated mass, having its seat in the right hypochondrium, and which was attached to another still larger, which was brought away on introducing the hand a second time. Delivery was effected immediately after this.

"The body of the child was shrivelled; and life appeared to have been extinct for a considerable time. The extremities, especially the inferior, were very small. M. Nichet experienced at first some difficulty as to what was the primitive seat of the two large fleshy masses which had occupied the abdomen; but upon examining this cavity he perceived that the kidneys were absent, and that these tumours were truly the missing organs.

"The right kidney was completely torn, but still exhibited its pelvis. It still retained its vessels and ureter. The general form of the right kidney was also preserved. Each kidney was three times the size of that of the adult organ, and occupied the whole space between the crest of the ilium and the summit of the lung, the diaphragm being squeezed up to the first ribs. The ribs themselves lay in contact, occupying but a small space, and pointed upwards. The enormous kidneys, smooth, and extensively nodulated, were enveloped in a fibro-cellular tunic, forming a capsule, which could only be torn with difficulty. Each lobe was separated from its neighbouring lobe by cellular partitions. The spaces formed by these partitions were filled by vesicles with thin transparent walls, the size of which varied from that of a pin's head to that of a pea. Upon squeezing the vesicles, there exuded a white, limpid, transparent liquid,—this came in a jet when the wall of the vesicle was punctured. When the substance of the organ was torn, these vesicles were brought into view in great numbers. There was no trace of supra-renal capsules. The pancreas had preserved its natural size; but was transformed into vesicles like the kidneys.

On the following day the woman was seized with symptoms of peritonitis, from which she expired on the fourth day after delivery. M. Nichet detected, on dissection, among other appearances, a rupture of the vagina, at its insertion into the uterus, in one-third of its circumference, and to the left. This lesion was certainly caused by the prolonged uterine contractions, for the crotchet introduced into the womb, and applied between the ribs, had been constantly and carefully covered by the hands."—*Gazette Médicale*, Feb. 1, 1845.

MIDWIFERY.

Case of Accidental Uterine Hemorrhage. By Robert Paterson, Esq.

Mrs P., aged thirty-five, in the last month of her fifth pregnancy, was found in a pool of blood, and in a most alarming state of prostration. The discharge continued, and she had no labour; the vagina was stuffed, brandy administered, and in about half an hour the pulse somewhat rallied; the os uteri was soft, and admitted the point of a finger; the membranes were entire, and closely embraced the head. In addition to the brandy, two drachms of the ergot were given with little benefit. On a second examination, the os uteri was found more dilated, and the membranes, which were threatening to protrude, were scratched through; but the flooding continued, and alarming prostration ensued. After waiting in vain for upwards of half an hour for uterine contraction, the ergot in two-drachm doses was resumed, after the second of which three powerful pains completed the labour, by the birth of a large still female child. The child was pale and bloodless, and the uterine surface of the placenta was coated with a layer of coagulum half an inch thick. The patient had a good recovery.

Ergot from the same parcel had been used successfully, both immediately before and after its administration in this case.—Abridged from the *Medical Gazette*, for September 20, 1844.

Uterine Polypus adhering to the Placenta, successfully removed during Delivery. By M. Aubinais,

A woman, aged 35, after two favourable deliveries, had frequent menorrhagia, accompanied with pain in the loins. This state continued five years; she then became pregnant a third time. M. Aubinais, who was sent for, found delivery had taken place before his arrival. In the attempts which had been made to extract the placenta, the cord had been broken, and the secundines remained in the uterus. On passing his finger along the remnant of the cord, he found it terminated in the centre of the placenta; but a little towards the left of its point of insertion, he discovered a tumour, of the size of a hen's egg, which caused the placenta to project like the globe of a lamp. He detached the placenta from left to right; but on reaching the polypus, he perceived that it adhered to the placenta, which explained the rupture of the cord. When traction was made on the placenta, the polypus followed it, as did also the uterus. M. A. then placed one hand on the hypogastrium, and fixed the uterus between it and the sacrum; he then seized the polypus, whose pedicle was small, and twisting it, tore it away with no great difficulty. In withdrawing it, he brought away the whole mass of the placenta. Little hemorrhage followed. The adhesions of the polypus to the placenta, were then examined; these were strong, especially at one spot, which extended to the size of a crown piece. Free anastomosis was established between the vessels of the placenta and those of the polypus; and pressure simultaneously filled the two bodies with blood. The patient was soon restored, and has subsequently been happily delivered a fourth time.

This case is interesting in several respects. It proves that a polypus may be implanted within the uterus at a considerable distance from the neck, without

interfering with pregnancy. Smellie, Levret, Baudelocque, and many modern accoucheurs, relate examples which confirm this fact.

It further results from this case, that a uterine polypus may contract adhesions with the placenta, and render its extraction difficult, and expose the cord to the risk of being ruptured; but when the polypus is detached, and traction applied to it, these adhesions favour the simultaneous issue, both of the polypus and placenta. It is, moreover, demonstrated that a vascular connection may be established between a uterine polypus and the placenta. And, lastly, there follows from the preceding case, the important practical conclusion, that accoucheurs may avail themselves of the favourable conditions presented during labour, for the removal of pediculated polypi, when the pedicles appear small and narrow.— *Gazette Médicale*, September 1844.

Case of Internal Uterine Hemorrhage, occurring after Venesection; and proving Fatal to the Child. By M. Loir.

Cases of internal uterine hemorrhage, in sufficient quantity to cause death, without producing any well-marked increase of size of the abdomen, or discharge of blood externally, are exceedingly rare. Madame Boivin even denies their possibility. The following case, published by M. Loir, appears to us as instructive as interesting, from the tone of veracity which pervades its recital.

Madame Darbet, aged 30, was bled by M. Loir, in the seventh month of her first pregnancy, for well-marked symptoms of cerebral congestion. Two cupful's of blood, at most, were taken. A short time afterwards the patient experienced a sudden uneasiness, and extraordinary sensation in the lower part of the abdomen; she had to lie down to prevent fainting. For five days she complained of disordered vision, a feeling of sinking, and observed that the child had ceased to move. At this period, however, 30th April, M. Loir still heard the placental souffle, and the action of the heart of the fœtus. He recommended rest: and after this the health appeared restored.

On the 3d May, Madame Darbet, whilst walking, suddenly experienced a painful sensation at the lower part of the abdomen, with general uneasiness and a tendency to faint. From that time she also complained of a disagreeable feeling of weight upon the rectum, which never after left her. To these symptoms succeeded constriction, anxieties at the epigastrium, and severe pains in the limbs, paleness, feeble pulse, coldness of the extremities; and lastly, nausea and vomiting. M. Loir, who was sent for at this time, found the uterus scarcely as high as the umbilicus, but round, hard, and the seat of obscure contractions. The os was closed and rigid; there was no discharge of blood per vaginam; the action of the fœtal heart was imperceptible.

These phenomena, at first attributed to indigestion, increased in severity. The disorder of vision, and tendency to faint, became more marked. The uterus, although not enlarged in size, became hard at intervals, and evidently exhausted. She continued in this state till the fifth. M. Loir, who waited impatiently for the dilatation of the cervix and the establishment of labour, then thought it prudent to have the advice of a colleague; the latter, however, also still thought it advisable to temporise. But as the strength continued to fail, the pulse to become feebler, and the eyes dim, M. Loir felt himself constrained to act in some way or other. He endeavoured to induce dilatation of the cervix, by the repeated introduction of the fingers; the membranes then presenting, he ruptured for the purpose of hastening the labour; but there was merely an escape of a very small quantity of brownish serum, and the pains, far from increasing in activity, became, on the contrary, less frequent. Dilatation continued to make little progress, notwithstanding the administration of repeated doses of ergot at short intervals.

At last, on the evening of the 5th, the patient being in a state of unconsciousness, and the pulse scarcely to be felt, M. Loir resolved to terminate the labour as the only means of saving the woman. The cervix appearing too hard and unyielding to permit of the introduction of the finger, he divided it by means of a probe-pointed bistoury, to the right and left. The child was then

delivered without much difficulty: it was dead; the cord was very short and twisted round the neck. Alongst with the child, and after its delivery, a quantity of clotted and dark liquid blood escaped to the extent of several pounds. The placenta adhered in part. It was extracted entire. On examining it, its interior was found covered with blood, and near its centre there was a cavity filled with clots, the circumference of which was ecchymosed; there were other two small effusions of about the size of a nut, in the neighbourhood; the blood was infiltrated into these without any communication externally. The child, which was of the size of an eight month's fœtus, appeared to have been dead for some days.

The following explanation appears to M. Loir the most probable that can be offered regarding the cause of the hemorrhage. He gives it, however, merely as an hypothesis. The bleeding, by causing syncope in the mother, may have given rise to convulsive movements in the child; during these, the latter may have given a sudden pull upon the cord, which, we have already seen, was very short,—hence, detachment of the cord, sanguineous exhalation, and all the accidents which followed. A nearly analogous case with that of M. Loir is related by Baudeloque.—*Gazette Médicale*, November 1844.

FORENSIC MEDICINE.

MR BAKER, SURGEON, RECOVERS 5s. A VISIT FOR 437 VISITS TO A PATIENT AFFECTED WITH GANGRENA SANILIS.—*What is the proper Treatment of this disease?*—STRICTURES OF THE TIMES ON MEDICAL EVIDENCE.

Court of Queen's Bench, Westminster, February 15. *Sittings at Nisi Prius, before Lord Denman and a Special Jury. Baker v. Lowe.*—Mr M. Chambers, Mr S. Sewell, and Mr Peacock appeared as counsel, and Mr Portal as attorney, for the plaintiff; Mr Crowder and Mr Mellor as counsel, and Mr Simpson as attorney, for the defendant.

The plaintiff is a surgeon, residing at Hampton, and having also a shop at Teddington, within a quarter of a mile of the defendant's residence. The defendant is a gentleman about 64 years old, who, after having held a commission in the Life Guards, is now living retired upon half pay. From the evidence it appeared, that about two years ago the defendant, who then was, to all appearance, a vigorous and healthy person, was seized with a pain in his toe, and that he applied upon the occasion to the plaintiff, who attended and treated him for the complaint. The disease of the defendant was what is called spontaneous gangrene; and the course which the plaintiff pursued was to administer stimulating medicines, with brandy, meat, and wine; and, after four or five days, to remove the toe which was affected. As the disorder, however, continued to diffuse itself over the foot, further surgical advice was called in, and Mr Liston, to whom recourse was had upon the occasion, recommended what is called "the soothing system," which consisted in the abandonment of stimuli, the administration of sedatives, and general temperance and quiescence. It became necessary, notwithstanding this improved method of treatment, to amputate the foot, which operation was accordingly performed by Mr Liston, assisted by Mr Baker. The plaintiff continued his attendance upon the defendant for some time after, and finally sent in his bill, which included 437 visits at 7s. 6d. a-piece, with a charge amounting to about L.13 for medicine, making in the whole L.193, odd. The defendant refused to pay the full amount, upon the ground that the number of visits charged was far too great, and that the amount at which they were severally rated was too high, and after some offers of adjustment the present action was brought to recover the whole amount. As the learned counsel for the plaintiff anticipated that the principal defence to be made upon the present occasion would be, that the plaintiff had so negligently and unskilfully treated the defendant in the first instance as to cause

thereby the necessity for amputating the foot, he called some surgical gentlemen to depose to the fact that the manner in which the complaint had been originally treated by Mr Baker was proper.

The gentlemen so produced, were Mr Bransby Cooper, Mr Partridge of King's College, and Mr Perry, inspector of prisons, together with Mr Liston. Their evidence was to the effect, that spontaneous gangrene was not the result of any previous external injury to the part affected, but the symptom and the consequence of a debilitated constitution, and that such debility may co-exist with the appearances of health and vigour in the patient: that it may be therefore, proper in such a case to administer stimulating medicines, and to allow stimulating diet to a person so affected, if in all the circumstances of his actual condition he seemed to require it; that the propriety of continuing that sort of treatment would depend upon the continuance of any circumstances which may have rendered it originally proper, and that the alteration of such treatment and the substitution for it of another, would not of necessity imply that the preceding treatment had been wrong. With regard to the amputation of the toe, it was an act of which the propriety would depend upon the state of the disease at the time.

Mr Crowder addressed the jury for the defence, and called

Mr Lawrence, the eminent surgeon, who said he was present and had heard the evidence which had been given, upon the part of the plaintiff, concerning the condition of the defendant's toe when Mr Baker was called in. Taking the representation to be correct, he expressed his own decided opinion, that the administration of brandy, meat, and wine, would be totally improper, as it would increase the inflammation, and extend the disease. In the circumstances under which the toe was cut off, the amputation was the very worst course that could be pursued, as an operation for such a disease inevitably increases for a time the disease in the part. The operation is an act of violence done upon a part already in a great state of excitement. The separation of the dead parts from the living is a tedious process, requiring considerable time, which was not afforded in the circumstances. The proper course to have been pursued was the mildest and most soothing local application, accompanied by general abstinence and quietness, and a reliance upon nature for a separation of the part affected. The operation of amputation ought not, as a general rule, to be had recourse to at all in spontaneous gangrene, as the effect of using the knife even in the healthy parts, is usually to produce mortification in them. In the present case, the necessity for cutting off the foot appeared to have been the result of amputating the toe, and of the stimulating treatment to which the patient had been subjected. Witness's inference from the account given by the defendant's son was, that if the case had been properly treated, the mortification would have been limited to the toe,—the most judicious course would have been to leave the separation to nature, and, the toe having died, would fall off itself. In his opinion the treatment of the case was totally improper.

Mr Ashton Key, and Mr Skey, gave evidence to the same effect.

Lord Denman told the jury, that he supposed it to be hardly possible but that, in the circumstances of the case, they would give a verdict for the plaintiff, with damages to some amount. What that amount, however, was to be, he left entirely to their own consideration; unless they were of opinion, that the work and labour of the plaintiff were either injurious, or of no service at all to the defendant, by reason of the unskilfulness with which he had been treated.

The jury having retired for about half an hour, brought in a verdict for the plaintiff, damages L.138, 14s., in arriving at which amount they calculated the visits at 5s. a-piece. They also found that the plaintiff had not shown any want of proper skill in the treatment of the defendant's disease.—*Times*, 17th February 1845.

MEDICAL TESTIMONY.

From the Times of 18th Feb. 1845.—We have heard much of the glorious uncertainty of the law. It has indeed passed into a musty proverb, and of its

truth many of our readers have, no doubt, been painfully convinced by personal experience. The limitation of the saying, however, is somewhat unjust. The science of medicine, and also that of surgery, at least of medico-surgery, may, we think, fairly lay claim to similar honours. Proofs abound. The illustrations are so numerous as almost to be of weekly occurrence. Let us take a recent and striking example. On Saturday an action was tried in the Court of Queen's Bench, before Lord Denman and a special jury, under the following circumstances:—The defendant, a gentleman of the name of Lowe, aged 64, but vigorous and healthy, was some two years back seized with a pain in his toe. Gout? Even worse—spontaneous gangrene. He applied to a Mr Baker, a surgeon at Hampton, and the plaintiff in the action, who administered stimulating medicines, with brandy, meat, and wine. Pleasant, perhaps, but wrong. At least in a few days the patient got rid of his toe, but not of his disorder. The latter spread over the foot, and Mr Liston, the surgeon, who was called in, cut off that also, after having in vain tried to save it by the adoption of the "soothing system"—the very reverse of Mr Baker's, and consisting in the abandonment of "stimuli," in the administration of sedative, and in temperance and quiescence. After that the plaintiff, continued his attendance upon the defendant, and finally sent in his bill, which included 437 visits at 7s. 6d. a-piece, with a charge of L.13 for medicine, in all L.193 odd. To the uninitiated in the mysteries of gangrened toes this result is rather startling. So appears to have thought Mr Lowe. Not unnaturally disliking to lose both his foot and his money, he refused payment, and the action was brought to recover the amount. The learned counsel for the plaintiff, anticipating the defence, brought forward Mr B. Cooper, Mr Partridge of King's College; Mr Perry, Inspector of Prisons; and *Mr Liston himself*—all men of mark—as witnesses, for the purpose of proving that the treatment had been proper. Their united testimony went to prove that "spontaneous gangrene was not the result of any previous external injury to the part affected, but the symptom and the consequence of a debilitated constitution, and that such debility may co-exist with the appearances of health and vigour in the patient;" and that it might, therefore, have been proper, in such a case as the one we are speaking of, to have administered stimulating medicines, and to have allowed stimulating diet. Pretty plain and straightforward this, it must be allowed; and conclusive, too, had the matter ended here; but what is the nature of the defence? No lesser men than Mr Lawrence, Mr Aston Key, and Mr Skey came forward, and gave it in evidence as their deliberate opinion, that, taking the representation to be correct, the administration of brandy, meat, and wine, was totally improper, as it must have tended to increase the inflammation and extend the disease! Further, that to cut off the toe was the very worst course which could have been pursued, the proper one being the mildest and most soothing local application, accompanied by general abstinence and quietness (Mr Liston's remedy though not apparently his theory,) and a reliance upon nature for a separation of the part affected. Much more did these eminent men say to the same effect, and concluded by stating, that "the necessity for cutting off the foot appeared to have been the result of amputating the toe, and that the treatment of the case was totally improper."

We give this to our readers as a singular instance of conflicting testimony upon the part of learned and scientific men. Who shall decide when doctors (or surgeons) disagree? Not our humble selves, certainly. The Lord Chief Justice Denman also was evidently full of doubt, and said but little. At this stage of the proceedings we felt, in our simplicity, the strongest commiseration for the jury, suffering, as we imagined, all the horrors of the most profound perplexity. We might have reserved our pity. The excellent gentlemen who composed it, after half an hour's absence, during which it would appear they had been calculating a sum in arithmetic, found a verdict for the plaintiff, damages L.138, 14s. in arriving at which amount they had calculated the visits at 5s. a-piece.

Too happy to arrive at any result, we do not seek to inquire as to the profound reasons which must have influenced the jury in coming to their verdict, nor why, if Mr Baker's visits were not too numerous, the sum of 5s. is more

orthodox and professional than 7s. 6d. It is sufficient to say, that the plaintiff must have hugged himself for a greater amount of success than perhaps he could reasonably have expected, and the public has learned another lesson as to the nature of the testimony of medical men.

TO THE EDITOR OF THE TIMES.

SIR,—I trust that you will insert the following short answer to the remarks on "Medical Testimony," in your publication of this day's date. I declined, as far as I could, giving any positive opinion as to the propriety of the treatment pursued in Captain Lowe's case previously to my visiting him, not being acquainted perhaps, or not recollecting all the concomitant circumstances. I stated, that had there been great redness and heat of the toe previously to its becoming dead, (of which no evidence had been given), possibly I should have followed an opposite course, and would at once have recommended moderate diet and abstinence from *stimuli*.

In regard to the amputation of the toe, I gave it as my opinion, "that if the mortification had stopped, and a line of separation had been fairly established betwixt the living and dead parts, no harm could have resulted from removing the toe (*distad of*) this line."

In constitutional gangrene the exhibition of stimulants with opium is the method which has generally been pursued by surgical practitioners. I have, however, seen fit to follow the opposite plan in very many cases, and have advocated this mode in my surgical lectures for several years past. My theory and practice in the case in question were thus quite in unison.

I doubt much if the stimulating plan, in constitutional spontaneous gangrene, as it has been called, has not hitherto been uniformly taught by even some of the witnesses for the defendant; and I am moreover fully convinced that in 19 cases out of 20, practitioners would have pursued the treatment adopted by Mr Baker, recommended as it is, in many of the best surgical works.—I am, Sir, your faithful servant,

ROBERT LISTON.

5, CLIFFORD STREET, Feb. 18.

TO THE EDITOR OF THE TIMES.

SIR,—In his letter of Wednesday last, explaining the discrepancy of medical opinion, which was the subject of remark in your paper of the same day, Mr Liston has made an omission, which it seems necessary to supply. He says, very truly, that the treatment of constitutional gangrene has been completely changed within the last few years, but does not mention the author of that change, merely stating, that he had seen fit to adopt it; from which we are apt to be led, though I am sure unintentionally on his part, to conclude that the new practice was established by Mr Liston himself. In general, it is much better not to intrude discussions of this kind into newspapers; but as the attention of the public has been called to the subject, both by yourself and Mr Liston, it is proper that they should be told—what is perfectly well known to the medical profession—that the treatment in question originated with the Professor of Clinical Surgery in the University of Edinburgh. As the paper containing his observations appeared on the 1st of January 1841, in the *London and Edinburgh Monthly Journal of Med. Science*, which I have the honour of editing, it is right in me to make this communication. I am, your most obedient servant,

JOHN ROSE CORMACK.

EDINBURGH, 131 PRINCES STREET,
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In reference to the first point, it may be stated, that as the bulk of the profession consists of men whose avocations leave but little opportunity for keeping pace with the ever-teeming medical press, a work which is able to bring before them, in a condensed and cheap form, the most valuable and practical results of British and Continental learning, must be peculiarly acceptable, inasmuch as it puts them *au courant* with the knowledge of the day with the greatest possible economy of time, and enables them to see at a glance what works are worthy of further perusal or purchase.

In regard to the second point, it is a matter of notoriety, that while the utility of books of the nature of the present undertaking has long been recognised abroad, while Germany has her "Jahrbuchers," and France her "Encyclographées," there is but one work of the kind at present before the British medical public; and without the least wish to detract from the reputation for usefulness, as far as it goes, of the work alluded to, it may safely be averred, that much more might and ought to be accomplished than is there attempted, in order to render a book at all commensurate with the increased taste for scientific, as well as mere practical information, which distinguishes the present race of medical practitioners. It will suffice to mention, that no retrospect at present exists, either of pathological chemistry, (the importance of a knowledge of which, in the treatment of disease, is now undeniable,) of forensic medicine, toxicology, or public hygiene, and that other necessary branches of medical study, as physiology and microscopic anatomy, are either entirely omitted, or only slightly alluded to, to show the great advantage which the profession may expect to derive from the possession of a periodical work of the comprehensive nature of the "Half-Yearly Abstract."

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tions très différentes et qui lui paraissent devoir varier autant que la nature des causes morbides qui les déterminent, et qu'il est très disposé à attribuer à l'action d'un poison introduit dans l'économie, par le canal digestif, la respiration, ou la surface cutanèe. Nous n'avons pas bésoin de faire remarquer combien ces données et cette direction promettent plus à la science, que cette éternelle refrain de phlegmasies gastro-intestinales que répètent encore aujourd'hui tant de médecins parmi nous. M. Cormack démontre jusqu'á l' évidence, que dans cette fièvre épidémique il n'y a aucun signe de phlegmasie du tube digestif, malgré la grande quantité de sang accumulée dans les organs centraux."

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" In the above rapid analysis, we have endeavoured to present a correct view of Dr Cormack's remarkably lucid and philosophical work. The sketch which we have given is, however, necessarily imperfect, from its brevity, and more calculated to stimulate the curiosity of our readers than to satisfy it. We therefore recommend Dr Cormack's treatise to their perusal. This we can conscientiously do, as his work is, without doubt, one of the best and most interesting Monographs on fever that has lately appeared. It is a model of patient, enlightened investigation, of erudite and logical deduction; and cannot but do credit to its author. We are much pleased with Dr Cormack, because, although so minute and so accurate in his analysis of the phenomena of the disease, he has not lost himself in its details. He has, on the contrary, with really a master hand, gathered together the *disjuncta membra* furnished by his researches, and formed a whole, which he places on the foreground, and connects at once, with those diseases with which it appears to present an affinity, viz., common typhus on the one hand, and yellow fever on the other. Whether this latter approximation be correct or not, we cannot take upon ourselves to say, but we must state that the facts and arguments which Dr Cormack brings forward go far to substantiate his opinions. We are becoming daily more convinced that the numerous forms of continued fever which occur in various parts of the world, and which are described under different names, as different diseases, are, in reality, merely modifications of the same fundamental type, and are, therefore, pleased to find the labours of so enlightened a physician as the Editor of the '*London and Edinburgh Monthly Journal of Medical Science,*' confirmatory of the views we entertain."

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Surgical Cases and Observations. By* JAMES SYME, Esq., *Professor of Clinical Surgery in the University of Edinburgh, and Surgeon to the Queen in Scotland.*

NO. XXV.—REDUCTION OF OLD DISLOCATIONS.

CASE 1. *Dislocation of the Shoulder-joint, of seven weeks standing;—Reduction.*—Euphemia Steele, aged 55, was admitted on the 25th of December last, with dislocation of the left shoulder-joint. It appeared, that on the 5th of November, she had fallen upon her side, and in consequence suffered much from pain of the left arm;—that she had been under surgical treatment from the 13th to the 27th, for a bruise on the elbow;—and that at the latter date, as there was nothing perceptibly wrong with the elbow, her continued complaint of pain from the shoulder downwards was discredited, while a flattening noticed under the acromion, was attributed to emaciation of the limb, from want of exercise. A month having afterwards elapsed without any improvement, the patient applied at the Minto House Dispensary, and being there found to labour under dislocation of the shoulder, was placed under my care in the hospital.

On the 26th, after immersion in the warm bath for an hour, reduction was attempted by extending the arm above the elbow in a line with the trunk—but though the head of the bone, which lay forwards on the inner side of the coracoid process, was made to move considerably towards the socket—it could not be fairly replaced. Two days afterwards, another attempt proved more effectual. I, this time, as before, laid the patient upon her back on a table—secured a hair cushion in the axilla by means of a stuffed leather belt, fastened to a ring in the wall, and then extended by pulleys

acting upon a skein of worsted attached by the "clove hitch" to the wrist, instead of the arm above the elbow. My reason for this alteration was, that during the former trial I had remarked the integuments of the arm and shoulder to be extremely tense, and hence concluded that the force might be more efficient if it were to act upon a more distant part of the limb. In accordance with this expectation it was immediately perceived that the bone yielded much more readily than it had done on the previous day; and without any snap being heard or felt, the patient soon exclaimed that her shoulder was right. On examination it was found to be so, though the slightest movement of the arm, in the way of abduction, caused the bone to quit its place, into which, however, it could be easily returned again, by slight pressure of the fingers in the axilla. A bandage applied so as to confine the elbow close to the side, kept the joint secure until its natural connexions were sufficiently restored to prevent any risk of displacement, and the patient was discharged on the 18th January.

The means employed for reducing dislocation of the shoulder-joint, should be varied according to circumstances, especially the period of its duration. Within a few hours after the injury, I have repeatedly effected reduction without any assistance, by placing one hand on the acromion, and then, having bent the fore-arm to a right angle, suddenly drawing the elbow backwards, so as at the same time to rotate the hand outwards.

The effect of this movement is well illustrated by a case which lately fell under my notice. The patient came from the country, a distance of twelve miles, for the purpose of having a dislocation of his shoulder reduced. Seeing from the position and powerless appearance of the arm, that the bone was displaced; and having felt, by putting my arm under his clothes, that its head lay in the axilla, I desired him to take off his coat. No sooner had this, with some assistance, been accomplished, than he declared that he felt his shoulder quite right, which it really was, no doubt from the action required for withdrawing his arm from the sleeve.

In ordinary cases, of from five hours to as many days duration, the most convenient method is to seat the patient upon a chair, and pull the arm at a right angle with the chest. If the resistance cannot be readily overcome in this way, it may be warrantable to employ the rude, but powerful means of extending by the hand against the heel in the axilla. In a dislocation of two weeks standing, which had been previously subjected, without success, to several very forcible attempts, I accomplished reduction almost instantaneously, by desiring one of my pupils to place his foot in the patient's axilla, and pull his hand. When, from the lapse of time, a still greater degree of difficulty is to be anticipated, the assistance of pulleys becomes proper, together with the use of some means to lessen the force of muscular contraction. For this purpose, tartar emetic, bleeding, and the warm bath, are generally employed. In

the earlier part of my practice, I generally combined the effects of these nauseating and depressing influences; but the one last mentioned seems to be quite sufficient of itself; and being not unpleasant to the patient, either at the time or afterwards, the others had better be omitted. From the variety of directions which have been adopted by different practitioners, for extending the arm, it might seem as if the degree of force were of more consequence than the line of its operation; while the truth, I believe, is, that success depends very much upon the limb being held, during the extension, near the side of the body, so as to relax the pectoral and dorsal muscles, which constitute the margin of the axillary hollow. Hence the success attending the plan of pulling against the heel in the axilla; and hence the propriety of extending in a line with the trunk, when the amount of difficulty anticipated, suggests the sacrifice of convenience for efficiency. The extending power may act either on the arm above the elbow, or on the wrist. The former situation allows the fore-arm to be used as a lever for causing rotation, but exposes the integuments and muscles to compression, which must always be opposed to the object in view,—and as in the case above related, may prevent it from being attained. That it does not necessarily thus impede success, however, will appear from the following cases.

Case 2. *Dislocation of the Shoulder-joint, of seven weeks standing, reduced.*—William Stewart, aged 56, was admitted on the 3d December 1840, seven weeks after sustaining a dislocation of the right shoulder-joint, for which he had been treated in the country by a bone-doctor, as suffering merely from the bruise occasioned by a fall on his side. After having been an hour in the bath, he was laid horizontally, and subjected to extension by means of the pulleys, in the direction of the long axis of the body. The bone regained its place without any snap, but escaped on the extension being discontinued,—and therefore, when again reduced was secured by a bandage confining the arm to the side.

Case 3. *Dislocation of the Shoulder-joint, of four weeks standing: Reduction.*—James Grieve, aged 50, was admitted on the 2d January 1844, four weeks after having his left shoulder-joint dislocated. He had been under the care of a surgeon, who had tried to reduce the bone, and assured him he had done so, though no relief or alteration in his feelings was afforded. He was immediately subjected to the pulleys—without success; but next day, after being an hour in the bath, had the bone restored to its place.

Case 4. *Dislocation of the Shoulder-joint, of four weeks standing: Reduction.*—Elizabeth Gair, aged fifty-three, was admitted on the 30th of November 1844. She stated, that on the fourth of the same month she had fallen on her right elbow; that a surgeon to whom she immediately afterwards applied, told her the shoulder-joint was dislocated, and tried to reduce it by means of his heel in the axilla, and that then (experiencing no relief, though assured

the bone was replaced,) she had recourse to a "*bone-setter*," who made an attempt which did not prove more successful. On the 2d of December, after being in the warm bath, the patient was laid upon a table, with a hair cushion secured in her axilla. Extension was then made from above the elbow by pulleys, and the bone very soon returned into its socket, with a distinct snap. As abduction of the arm was found to cause renewal of the displacement, I bandaged the limb as usual to the side.

In Dislocation of the Hip-Joint upwards and backwards, the extending force may act either upon the ankle or above the knee; but as rotation of the limb very considerably conduces to replacement, and as this movement is best effected by means of the leg used for a lever, while the knee is bent, the preference should be given to extension from above the knee. It may be added, that the extensors of the hip, being flexors of the knee, are put very much upon the stretch, if the knee is kept straight, while the limb is extended, as it ought to be, in the direction which the thigh bone assumes in this form of dislocation.

CASE 5. *Dislocation of the Hip-joint of five weeks standing:—Reduction.*—James Millar, aged 40, was admitted on the 23d of January last, five weeks after being overwhelmed by a fall of earth, while his legs were crossed. The left limb was nearly two inches shorter than the right one, and in all other respects exhibited very distinctly the characters of dislocation of the hip-joint on the dorsum ilii. Next day, after the usual preparation in the warm bath, he was subjected to extension from the ankle, without success, the lever afforded by the foot for causing rotation, being obviously very inefficient, and the muscles on the back part of the thigh feeling extremely tense. The pulleys were then made to act above the knee, and speedily restored the bone to its place.

CASE 6.—*Dislocation of the Thigh-bone, upwards, and backwards, primarily, on the dorsum ilii, secondarily, into the ischiatic notch:—Reduction.*—James Hunter, aged 18, was admitted on the 13th February last, suffering from the effects of an injury caused the preceding day by a railway carriage, which threw him down with great violence. In addition to some superficial bruises, the right thigh-bone was dislocated upwards and backwards. The process of reduction was conducted as usual, and apparently with success, as the bone distinctly moved, and grated under my hand, which rested upon the trochanter, the characteristic deformity at the same time disappearing. The injured limb, instead of being almost two inches shorter, and turned inwards, so that the toes rested upon the instep of the other foot, seemed hardly at all diminished in length, and had become quite straight in its direction. But the limb, though nearly, was not quite of the proper length; the foot, though no longer inverted, did not admit of rotation outwards; the thigh had a stiff constrained aspect; and the

patient's back, instead of resting flat upon the mattress, remained in an arched form, unless the thigh was raised into a position of semiflexion on the pelvis. These characters denoted dislocation of the thigh-bone into the ischiatic notch, and led to a repetition of the process for reduction, which very soon had the desired effect, and the appearance of the limb became in every respect natural.

The important feature of this case is the secondary dislocation that took place during the reduction. In more than one instance which has fallen under my observation, the same change of circumstances occasioned the serious error of supposing that the bone had returned to its proper place, while it had merely shifted into the notch; and as that excellent authority, Sir A. Cooper, though he has warned against the risk of this occurrence in reducing dislocation into the foramen ovale, has not noticed it with regard to the more common case of dislocation on the ilium, or pointed out the deceitful alteration of appearances so induced, I hope the instance here related will not be without use.

In regard to the comparative frequency of the different dislocations to which the hip-joint is liable, Sir A. Cooper has stated their respective numbers in twenty cases that had fallen under his own observation,—on the dorsum ilii, 12; into the ischiatic notch, 5; into the foramen ovale, 2; and on the pubis, 1. It is curious that of 10 cases which have been reduced in my practice in the Royal Infirmary during the last twelve years, the proportion is almost precisely the same.

On the Pubis.

Alexander Grieve, aged 23,—recent.

Into the Foramen Ovale.

Hamilton Hamill, aged 45,—recent.

Into the Ischiatic Notch.

James Inglis, aged 56,—recent.
Lawrence Smith, aged 18,—two weeks standing.

On the Dorsum Ilii.

William Scott, aged 36,—9 weeks standing.
Elizabeth Waters, aged 26,—6 weeks do.
William Thomson, aged 50,—recent.
Jane Millar, aged 40,—5 weeks standing.
James Hunter,—recent.
A boy, aged 14,—recent.

There was another dislocation into the ischiatic notch, which I did not reduce, as the patient was dying from rupture of the bladder.

ARTICLE II.—*Cases in Surgery, from the Practice of* DR HANDYSIDE, F.R.S.E., *late Senior Ordinary Surgeon, and now one of the Consulting Surgeons to the Royal Infirmary of Edinburgh. Reported by* JOHN STRUTHERS, ESQ., *House Surgeon in the Royal Infirmary.*

(Continued from the January Number, p. 38.*)*

III.—ON AMPUTATION AT THE HIP-JOINT.

Case of Osteo-Medullary Sarcoma of the Os Femoris, for which Amputation at the Hip-joint was successfully performed:—with Observations.[1]

John Wright, aged 13, was admitted into the Royal Infirmary, under Dr Handyside, on 13th June 1843, with an extensive tumour of the left thigh bone. On examination, the thigh was found to be much enlarged, especially at its middle, whence it tapered gradually towards each extremity. The tumour was hard and inelastic, connected evidently with the os femoris, and it occupied about the three middle fifths of that bone, leaving its extremities of nearly the normal size. Its surface was smooth and regular, and over it the muscles and other soft parts could be moved freely. The integument over the disease presented a somewhat glistening appearance, but was not discoloured; and beneath it there appeared some faint blue lines, indicating distension of the superficial veins. The tumour was the seat of acute, darting pain, which became increased towards night, and also underwent, occasionally, severe exacerbations.

The lymphatic glands of the groin, and of the rest of the body, were carefully examined, and found not to be enlarged or otherwise affected. The motions of the hip-joint were perfect, and were performed without giving rise to pain. The limb below the knee was much emaciated. The countenance of the patient was sallow, and had an anxious appearance; and his tongue was of a bright red colour. His body generally was not much emaciated; and his health appeared on the whole to be good.

Previous history.—Six years since, he had an attack of scarlatina, on recovering from which, the left thigh remained weaker than the other, and appeared also to be smaller in size. For this, the part had been rubbed frequently with various ointments. He continued to go about, otherwise quite well, till about six months ago, when, during the night, he was suddenly seized with violent pain in the thigh. Poultices were next applied to the affected part, and afterwards sinapisms, and a few leeches; but under this treatment,

[1] In our Reports of the Medico-Chir. Society of Edinburgh, vol. for 1844, p. 85, will will be found a short account of this case.

the thigh increased rapidly in size. Since then, the tumour has gradually increased; and of late he has experienced considerable uneasiness, from the frequent pain in it, and the deprivation of sleep thus occasioned.

As amputation was the only method by which the patient's life could be saved, or, at least, prolonged,—and as the bone appeared to be affected at the trochanteric region also, as indicated by its apparent enlargement there, and by that region being the seat of stinging pain,—it was resolved that the limb should be removed by Amputation at the Hip-joint.

Accordingly, on the 30th June, the patient having had a good night's rest, and his bowels having been freely opened, the operation was performed by Dr Handyside, at noon, in the following manner:—The patient was secured on his back, on the operation-table, with the nates resting on its edge. The right limb was held aside by one assistant, and the left extended by a second. The femoral artery was then compressed against the pubes, by the fingers of a third assistant, and the knife was introduced rather above midway between the anterior superior spine of the ilium and the trochanter major. It was then carried downwards, forwards, and inwards, passing close over, and grazing the capsular ligament and the neck of the thigh-bone; and the point of it was brought out at about two inches and a half from the anus. The anterior flap was then rapidly formed, being about from three and a half to four inches in length. This flap was then seized by the left hand of the third assistant, who thus more effectually prevented hemorrhage from the divided vessels, and who, at the same time, elevated and retracted the flap thus made. As the knife entered, the second assistant (he to whom was committed the charge of the limb) held it midway between abduction and adduction, then slight flexion was made by him, and subsequently, complete rotation inwards, as the knife advanced. On the completion of this anterior flap, the limb was immediately rotated outwards, by which movement the capsular ligament was fully exposed, and rendered quite tense, at its thinnest part, where it was struck by the knife, so as to penetrate the cartilage covering the head of the bone. At the same moment, the limb was abducted and depressed, which made the ball of the os femoris start forwards from the acetabulum. The teres ligament, thus rendered tense, was divided by the point of the knife. The operator, then, grasping with his left hand the head of the bone, and maintaining it on a transverse plane with the neck and trochanter major, passed the blade of the knife behind these parts, dividing thus the remaining portion of the capsular ligament; while, at the same time, he completed the separation of the limb, by rapidly forming the posterior flap, which was of greater length than the anterior one.

A small portion of the tumour, which was observed to remain on

the divided surface of the posterior flap, was now carefully and completely removed. The hemorrhage from the sciatic and obturator arteries and their branches, as these issued from their pelvic apertures, was temporarily arrested by the instantaneous and firm application of two dry sponges, which, during the ablation of the limb, two other assistants watched the opportunity to apply; and the bleeding from the many small vessels of the posterior flap was farther prevented by the quick application of the expanded hands of the second assistant, instantly on his dropping the amputated limb. The vessels of the posterior flap were secured by ligatures, previously to those of the anterior, the superficial femoral being tied last. Fifteen vessels in all required ligature. About six ounces only of blood were lost, and this flowed chiefly from the divided surface of the ablated limb. The flaps were brought together by seven points of the interrupted suture; a pledget of dry lint was next applied,—and this was retained, while the stump also was supported by the application, around the loins and pelvis, of a broad cotton bandage.

The patient bore the operation well; but symptoms of the shock exhibited themselves before he left the table, notwithstanding that stimuli to the amount of four ounces of brandy and two of wine were administered. He was replaced in bed, after about 15 minutes only had elapsed since his leaving it, and the removal of the limb did not occupy more than about one-third of a minute, although a trivial delay was occasioned at the moment when the limb was forcibly depressed, by the attendants having, in their desire to stead the patient's body, drawn the nates backwards on the table, from which position he had to be again drawn forward.

Soon after being placed in bed he became much excited, from the load of stimuli that had been given him during the operation; but on vomiting freely, he became quite calm. The pulse, however, soon began to sink, so that additional stimuli were administered. On this he revived, and about an hour and a half after the operation the pulse had risen to 115, and half an hour thereafter reaction set in.—*An opiate, consisting of* 20 *drops of the sol. mur. morph. was then administered, and repeated twice within an hour.*

At 4 o'clock P.M., he was asleep; and the pulse still continued at 115. At 9 P.M. the pulse was 125; at 11 P.M. 140; and at 12 P.M. 150. The respirations were 35 in the minute, and he perspired profusely.

July 1. At 1 o'clock A.M. the pulse had risen to 156, and it continued thus high till about 3 A.M., when it fell to 150. At 9 A.M., it was reported that he had slept most of the night. The pulse was found still to continue high, and *an opiate was given, which has been since repeated.*

3 P.M. The pulse has now risen to 160.—*To have a full opiate, which is to be repeated several times during the afternoon and evening,*

and let a blister be applied to the chest, as slight catarrhal symptoms have shown themselves.

July 2. He slept soundly during the night, and the pulse has fallen to 128. At noon, the pulse ranged between 140 and 150. The catarrhal symptoms are now gone.

3*d*. Pulse from 130 to 140. The tongue is natural; and the bowels have been freely opened.

6*th*. Since last report he has continued much in the same condition. His food has been light and farinaceous, and he has been allowed various cooling drinks. *He has had opiates administered from time to time, and the bowels have been freely opened by an enema. The stump has been kept cool and moist by cold applications, frequently changed.*

To-day the stump was dressed for the first time. Union by the first intention has taken place, except at three places where this was prevented by the ends of the ligatures. *Two of the sutures were removed.* A small quantity of pus was discharged at the parts already mentioned, where primary union had been prevented. There was no hemorrhage. *The tepid water dressing to be applied to the stump.*

12*th*. Since last report, the pulse has ranged between 110 and 120. *After an enema—several of which have been given, containing assafœtida—he passed a large lumbricus. Three more sutures were removed to-day.* The ligatures were tried gently, but all of them remained fast. There is some discharge from around the ligatures. Otherwise the stump is quite solid and free from pain.

His appetite remains good, and his food consists chiefly of porridge and milk.

It would be tedious to give the farther details of this case:—suffice it therefore to state, that the patient remained in the hospital till the 5th of August, during which time every thing advanced favourably. His diet during this time was chiefly farinaceous, with a little steak and wine occasionally; but these were discontinued, as they did not agree with him. His general health and appetite continued to improve daily; and during the last ten days that he remained in the hospital, he had an occasional airing in the grounds.

The discharge from around the remaining ligatures continued healthy in character, and moderate in quantity, and the stump itself became firm, and continued free from pain.

On the 5th of August, six weeks after the operation, he left the hospital, but remained in the immediate neighbourhood of Edinburgh till the 11th of September. *Soon after leaving the hospital* he complained of occasional frontal headach, which was followed by pain in the left orbit and eyeball, with increased sensibility to light, and lachrymation. *About the middle of August* also, a small chronic abscess formed over the occiput. *Towards the beginning of September* the pain in the eye and orbital region diminished; and he took exercise on crutches in the open air daily, using also the stump freely by sitting on it.

On the 11th of September he left the neighbourhood of Edinburgh for his home in Stirlingshire, in excellent spirits, and apparently in good health. The stump at this time felt a little indurated in the course of the lymphatics, where it had assumed a slightly glazed and full appearance, but otherwise it was natural, and entirely free from pain. It presented the appearance, represented in the accompanying wood-cut, copied from a cast made by Dr J. Maclean, the day before the patient returned home.

The first ligature came away on the sixth of July, and by the 11th of September, when he went home, only four of them adhered. These appeared to be held fast among the deep granulations, as there was no want of action in the stump.

He was discharged from the hospital about six weeks after the operation, and returned home, in the condition above mentioned, about two months and a half after having left it.

After his return home he continued to progress favourably, walking about on crutches, till about the end of September, when the pain in the left frontal and orbital regions became so severe as to oblige him to remain in the house.

At this time he was visited by Dr Handyside, who found that the functions of the patient's left eye were much impaired, with prominence of the eyeball, and considerable tumefaction of the left eyelids. Three of the remaining ligatures were withdrawn, and the fourth—the only remaining one—when pulled, broke across, from its being held fast in the interior of the stump.

The stump itself was nearly in the same condition as when he left the neighbourhood of Edinburgh,—only there protruded at the seat of the ligatures, a mass of œdematous granulations,—but it was still free from pain.

Towards the end of October he was again seen by Dr Handyside, who found him in the following condition:—

The left eyeball was very prominent and discoloured, with almost complete loss of vision. The eyelids were so much tumefied, as almost to conceal the eyeball,—and the veins of the eyelids were very conspicuous, being enlarged and tortuous. The orbit itself appeared to be also enlarged and prominent, especially towards its upper and outer part, forming there a hard inelastic swelling. These parts were the seat of continual stinging pain, which prevented sleep, and was fast undermining his strength. Three chronic abscesses were situated over various parts of the head. There was a tumour of the size of an egg on the left hypochondrium, which was firmly adherent to, and connected with the cartilages of the upper false ribs. It was slightly elastic to the feel, had grown rapidly, and was the seat of acute darting pains,—being, like the tumour of the orbit, decidedly of a malignant character. The disease seemed to be fairly begun in the stump, particularly in that part of it which had been irritated by the long retention of the ligatures,—as, at the part where the last ligature had lain, a small, pale-coloured fungus protruded. The patient's body, generally, was emaciated, and his strength was worn down by the continued pain, and the malignant hectic. To procure sleep, he had been for some time in the habit of taking frequent and full doses of the solution of the muriate of morphia.

His appetite was not much impaired, as he had a great desire for food; but he was unable to eat much.

He was now evidently sinking fast. He lived, however, getting gradually worse, till the 11th of November.

No sectio cadaveris could be obtained.

The patient thus lived for two months after leaving Edinburgh, and about four and a half months after the operation.

Remarks.—In connexion with this case, numerous important considerations suggest themselves.

In regard to the previous history of the case, it may be observed, that though the tumour commenced apparently only about six months before the patient presented himself at the hospital, the disease had existed probably for some time anterior to that. The left thigh and limb had, in fact, continued weaker than the other, for about six years subsequent to the attack of scarlatina,—an affection indeed which is not an unfrequent precursor, or even cause, of such diseases in children.

During the last six months, however, the expansion and growth of the tumour had been rapid, and when the patient did present himself at the hospital, it evidently partook of a malignant character; as was indicated not only by its remarkable advance in size, of late, and by its being the seat of acute darting pain, but also by the appearance of the patient. At the same time, it had the character of the osteo-sarcoma, as indicated by the apparent great expansion of the bone, or of the tumour connected with the latter,—

by the absence of any softness or elasticity on the tumour being handled,—by the entire absence of any affection of the lymphatic glands in the neighbourhood,—by the soft parts and the integument being freely moveable over the tumour,—and by the disease having shown no tendency to spread to and involve the integument. On the last point it may be added, that some of the diagnostic characters of the osteo-sarcoma, as distinguished from the osteo-encephaloma, (or true and originally malignant tumour of bone), are, that the former increases and spreads by continuity, being confined to the bone only, which becomes much expanded and attenuated, as was apparently the case in the tumour now under consideration;—whereas the latter, although it arises in the bone, yet does not confine itself to that tissue, but, after the part originally affected has become softened without much expansion, it extends and spreads more by contiguity than by continuity, so that, after having involved in its ravages all the various deep textures with which it comes into contact, it ultimately reaches the surface, the integument becoming included in malignant ulceration.

In the present instance, therefore, the appearances of the tumour favoured the opinion, that it, though now of a malignant nature, had originated, and for some time advanced as an osteo-sarcoma,—the tendency to degeneration possessed by which having been increased, and its progress accelerated by the constant irritation of the tumour by the counter-irritants and rubefacients applied to it, and continued so long.

On the muscles and other soft parts which lay over the bone and tumour being dissected off, the disease presented the appearance represented in the accompanying sketch.

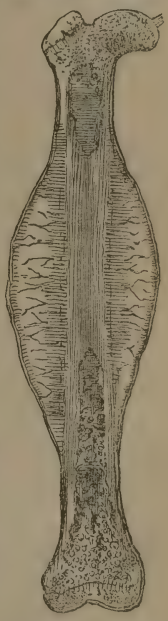
On making a section of the tumour and bone, it was found to be of a somewhat peculiar nature, and to be different from what was to be expected from its external appearance.

The shaft of the bone is entire, except near its middle, where it appears as if compressed by the tumour, which is external to it. The medullary canal is obliterated opposite to the bulk of the tumour, being filled up with apparently new osseous deposit; this, however, as well as the shaft of the bone, is more soft and sectile than natural. At about four inches from the lower epiphysis, the medullary canal is divided into large cells, in which sarcomatous substance has been deposited. The space also which intervenes between the walls of the cylinder, from the part surrounded by the tumour up to the neck of the bone, is filled up with similar deposit. The section of the upper extremity of the bone

presents the usual osseous cancelli, but these are condensed and crowded, owing to the altered form of the head, neck, and trochanter.

This alteration in form consists chiefly in the flattening and elongation, in a transverse direction, of the head of the bone, and in the nearly complete absence, from absorption, of the neck,—the head at its upper arc being almost in contact with the great trochanter.

The periosteum, which extends over and limits the tumour, is thickened and diseased, and this condition extends as high as the head of the bone. The morbid mass, which constitutes the tumour proper, lies between the shaft of the bone and its periosteum, having originated either in the latter texture, or in the outer lamina of the shaft. The former is the more probable view, since, in the substance of the periosteum itself, both above and below the tumour, (where that investing membrane, altered by disease, surrounds the cervix, and also the lower fifth of the thigh-bone) may be recognised both osteo-sarcomatous and medullary tissue. In structure, the tumour appears to be a mixture of the osteo-sarcoma and of the fibro-medullary formation, there being distinct radiating bands between the surface of the bone and the periosteal covering of the tumour. Some of these striæ are osteo-cartilaginous, and others fibrous; and in the interstices of both of these are deposited the sarcomatous and encephalomatous substances.



The teres ligament adheres firmly to the bone, and is healthy in texture. These appearances, presented by the section of the tumour and bone, are represented in the accompanying sketch.

But the tumour having presented the appearance already described, when the case presented itself at the hospital, it was evident, that the only chance in favour of the patient's life being saved, or at least prolonged, was the early and complete removal of the tumour;—it was therefore resolved to afford the patient this benefit. The question next arose, whether the limb should be removed by amputation in the upper fifth of the thigh, or by disarticulation at the hip-joint; but there could be little doubt as to the propriety, or rather the necessity, of giving the preference to the latter operation, since the bone evidently appeared to be affected as high as the trochanteric region. This fact was indicated by the symptoms already noticed.

Had the operation of amputation through the trochanters been performed, the patient might have sustained with impunity the shock resulting from this at least equally severe operation,—the

flaps might have united by the first intention, and the stump might have remained well for a short time,—but there can be no doubt that the latter inevitably would have early become one mass of malignant disease, as this would have soon increased with renewed vigour in the diseased portion of the divided bone, thus left behind,—would have soon extended to, and seized on, the surrounding soft parts,—and, after involving the integument, would have protruded as a bloody fungus, so as to have carried off the patient more speedily, after all the dangers he had escaped, than if the original tumour had been left unmolested.

No doubt the disease did return in the stump after all, but this appears scarcely attributable to part of the tumour or of the local disease having been left behind, as is shown by its having first occurred in a distant part, and only subsequently in the stump itself; whereas, had the operation of amputation through the trochanters been performed, the local disease would never have been eradicated, and the stump must have been the first part in which the disease would have shown itself,—certainly ere many weeks had elapsed, and in a more severe form than before.

The preference was therefore evidently to be given to the operation of disarticulation at the hip-joint, as by it only could the local disease be entirely removed.

In arriving at such a determination in similar cases, the surgeon must, of course, keep in view the hazards which attend such a serious operation; though, at the same time, the dangers attending it, as compared with amputation through the trochanters, or at the upper fifth of the thigh, have been, I believe, much over-rated. Indeed, many of the fatal results which have followed its performance, have not been due to the fact, that this operation in particular had been performed, but to other causes.

Previously to the present instance, the operation had been performed, I believe, in about fifty cases, of which sixteen were attended by complete success. A few only of these successful cases occurred in Britain, and the only recorded instance in Scotland, where the operation had been attended with final success, is one which was performed by Dr Macfarlane of Glasgow, on account of extensive injury of the left thigh, with compound fracture below the trochanters, occurring in a child only two years of age.[1] "The patient is now a stout and active girl."[2]

There are published other cases, however, in which it cannot be said that the patients died from the operation, as they survived its first effects, but were carried off by diseases apparently unconnected with it. Six in number of such cases have been related, only one of which occurred in Scotland, being in the practice of Professor Syme, and where the patient lived till the com-

[1] See London Medical Gazette, vol. ix., p. 231.

[2] Extract from a private letter from Dr Macfarlane to Dr Handyside.

mencement of the eighth week from the operation, but then died from ascites.[1]

The remaining cases were unsuccessful, as the patients died either some hours, or at least some days, after the operation. These occurred chiefly in military practice. In most of them the operation was undertaken for severe injuries, from gun-shot wounds, of the upper third of the thigh and trochanteric region; and in many of which the patients would, in all probability, have sunk from the extent of the shock and original injury, although the removal of the shattered limbs with the head and neck of the bone had not been attempted.[2]

Taking, then, even the statistics of the results of the cases where the operation has been performed, we see that one-third of the patients have recovered completely. This, however, is by no means a correct method by which to form our conclusions in regard to the operation; as the deaths in some of the unsuccessful cases were clearly attributable to causes unconnected with the operation, and occurred a considerable time after it. Moreover, in many of those cases in which death occurred not long after the operation, the surgeon felt called on to remove the shattered bone by disarticulation, notwithstanding that the patients were previously so much enfeebled by the injury, that the chance of success was but small. To these considerations, it may be also added, that in almost all the cases in which the operation has been undertaken, death was otherwise expected speedily to ensue.

It is commonly believed, that this operation is in itself much more severe and dangerous than that of amputation through the trochanters, or at the upper fifth of the thigh; but the difference between them is not so great as might at first sight appear. The flaps formed, the vessels divided, and surface exposed, are nearly the same in both; whereas in the former, the operation is much more easily and more rapidly executed, and the removal of a few inches more of the bone is attended with less shock and danger to the patient, than is the division of the bone by the saw, in its trochanteric region. Lastly, any greater fatality which may have followed the former, is due to the fact that the cases in which it has been performed have been much more complicated and dangerous, as well as more hopeless, than those in which the latter operation has been practised. The superiority, also, of the operation of disarticulation, in a case of disease of the bone, where there is suspicion of the upper end being affected,—as in the case which has given rise to these remarks,—is sufficiently evident.

In regard to the easiest, safest, and best method of performing an operation of such magnitude and importance as Amputation at the Hip-joint, surgeons are not as yet entirely agreed. Very many

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[1] See Edinburgh Medical and Surgical Journal, vol. xx., p. 25.
[2] See Velpeau's Eléments de Médecine Opératoire, 1832.

different methods have been proposed and practised, but these may be referred to three principal methods, with their modifications; excluding that by the circular incision, which was recommended and even practised by Mr Abernethy. It is also almost unnecessary to notice the old preliminary practice of securing by ligature the common femoral artery, as practised by Baron Larrey, this being now superseded by compression, effected by the fingers of an assistant. *First*, There is the method of making directly lateral flaps by transfixion and cutting from within outwards; the disarticulation being effected between the formation of the flaps, as practised by Larrey,—the internal flap being first formed. This method has been varied by different surgeons. Thus, Langenbeck reverses the order of forming the flaps, by beginning with the external; and Dupuytren begins with the formation of the internal flap, by cutting from without inwards. *Secondly*, The method by the formation of postero-external and antero-internal flaps, effected also by transfixion, and then cutting from within outwards, beginning with the external flap, but leaving the disarticulation till the end. This method is practised and recommended by Lisfranc, and has been followed by Mr Syme. It has also been varied by cutting from without inwards. *Thirdly*, The formation of antero-posterior flaps, the disarticulation being effected after the formation of the anterior flap. The anterior flap is derived partly from the inner side of the thigh, and the posterior one partly from its outer side.

The last described method was practised by various surgeons, so far back as the year 1806, but in such a manner as not to have been generally adopted by subsequent operators, the anterior flap having been made of great length, and the posterior one cut very short. An improvement on this method, adopted by Mr Liston, is that which was practised in the present instance.

As to which of these methods the preference should be accorded, the surgeon must be guided principally by the nature of the case. However, when circumstances will allow of it, the antero-posterior flap method,—just adverted to, and as described in the early part of this narrative,—will be found, I believe, to be the preferable one. The vessels divided are the same, and they are more easily secured than when the surfaces exposed are lateral,—the flaps are of more equal dimensions, and lie afterwards more accurately in apposition,—the articulation is more rapidly reached, and is exposed at a more favourable part for being opened,—the head of the bone is more easily dislocated, and the division of the ligaments more easily effected;—the removal, too, of the limb is completed with one instrument only,—and, finally, by this method the whole operation can be much more easily and rapidly completed, than by practising any of the other methods.

For these reasons, therefore, I would recommend the adoption of this mode of performing the operation of Amputation at the Hip-joint.

(To be continued.)

ARTICLE III.—*Case of a Blood-Vessel communicating with the cavity of an Abscess. By* ALEXANDER MAXWELL ADAMS, M.D., *Member of the Faculty of Physicians and Surgeons of Glasgow.*

IN the LONDON AND EDINBURGH MONTHLY JOURNAL for March 1843, there is communicated by my friend, Dr. A. King of Glasgow, a very interesting case of Rupture of the Internal Jugular Vein into an Abscess, which had formed near the angle of the jaw. Independent of the interest attaching to it,—from being, so far as I know, the first recorded case, in which a large and important vein had communicated with an abscess, and caused death,—it is important, as serving to corroborate in some measure the accuracy of a statement previously published by Mr Liston, in his well-known paper on "A Peculiar Variety of False Aneurism," which was excluded from the *Transactions of the Medico-Chirurgical Society of London* for reaons best known to that body.

One great difference, however, existed between the two cases, exclusive of the fact, that in the one, a vein was affected, and in the other an artery,—viz. that in Dr King's case the abscess in the neck had burst externally three days before any evidence was afforded of the vein having become implicated; whilst in Mr Liston's, the communication between the artery and abscess had evidently taken place some time before the latter was opened. This distinction, in the eyes of some of Mr Liston's *well-disposed friends*, seemed very important; for while few of them could deny that ulceration sometimes occurred in an opened abscess, and led to destruction of vessels, many were unwilling to admit that such a thing ever happened in an unopened one; and they therefore, with the utmost apparent zeal for the interests of suffering humanity, proclaimed loudly to the medical world, through every available channel, their belief in the falsity of that great surgeon's description of the case in question. Subsequent, aye, and even previous experience, have, notwithstanding, confirmed the possibility of the account which he gave; and this very case, instead of detracting from, has in reality added another wreath to his chaplet of well-earned laurels.

In a case which came under my own observation in the month of May last, a vessel undoubtedly communicated with the cavity of an abscess, previously to the latter giving way; and although the value of my account may in some measure be lessened, owing to an opportunity not having been afforded me of ascertaining the exact vessel which gave rise to the fatal hemorrhage, yet the case is sufficiently interesting in other respects, to justify me in making it public. It will serve at least to add to the number of the similar cases already recorded in Mr Liston's memoir, and in Dr King's, and subsequently in Mr Bloxam's communications; and

will afford additional proof of the danger of allowing abscesses to remain for a long time, (particularly in delicate children), pressing upon important vessels.

The case was that of Eliza Cameron, aged fifteen months, who, on the 1st of May, was attacked with scarlatina anginosa, which pursued a favourable course under the treatment. On the 17th she was brought to me, in consequence of a diffused, tense, and superficially inflamed swelling, situated behind and below the angle of the right jaw. At this period, the throat, internally, showed no appearance of disease. As no fluctuation could be detected in the tumour, poultices were ordered, and directions given for the child to be brought back to me in a couple of days. The poultices were applied; but the mother neglected showing me the child at the time appointed, wishing, as she said, "that the *bealing* should be quite ripe before it was lanced." The consequence was, that the tumour burst into the throat, and the hemorrhage which ensued was so great, as speedily to prove fatal. The account given to me was, that the tumour had become much softer, and appeared to the friends sufficiently ready for opening, when, on the evening of the 23d, the child suddenly gave issue to a large mouthful of scarlet-coloured blood. It continued to flow from the mouth, of the same colour, for the space of six or seven minutes. A considerable quantity of a darker coloured and coagulated blood was next vomited, making the quantity lost amount altogether, as nearly as the bystanders could guess, to about sixteen ounces. Shortly after this the child died. The swelling on the side of the neck was found to have decreased considerably in size.

From the preceding description, it is tolerably clear, why the blood vomited first and last should have differed so much in appearance; for in the former instance it must have proceeded directly out of the mouth, from the suppurating cyst, and in the latter it must have trickled first into the stomach, and been again discharged, from thence altered both in colour and consistence.

Notwithstanding the statement made to me, that the blood was at first of a scarlet colour, I am by no means decided as to whether it issued from an artery or vein; but of one thing there can be little doubt, that the vessel, whatever it was, must have been of some consideration.

The practical lesson to be deduced from the preceding, and similar cases, I have already hinted at, viz., that no unnecessary delay should be allowed to occur before opening abscesses situated under the resisting fascia of the neck, particularly when they take place in children of weakly constitution, or debilitated by disease. I have a strong conviction, that if the abscess had been opened earlier in my own case, if not in some of the others recorded, the termination of them would have been very different indeed.

GLASGOW, 58 ROSE STREET, GARNETHILL,
January 11, 1845.

ARTICLE IV.—*Clinical Contributions to Pathology, Therapeutics, and Forensic Medicine. By* JOHN ROSE CORMACK, M.D. Edin., F.R.S.E., *one of the Physicians to the Royal Infirmary of Edinburgh, and Lecturer on Forensic Medicine.*

(Continued from p. 775 of last volume.)

No. III.

FATAL CASE OF ABSCESS OF THE BRAIN, CONNECTED WITH OTITIS; CESSATION OF OTORRHŒA, WITH SUPERVENTION OF YELLOW SKIN.—ON DISSECTION, HYPERŒMIA OF THE SPLEEN AND ALIMENTARY CANAL, WITH SOFTENING OF, AND EXTRAVASATION OF BLOOD INTO THE STOMACH, WHERE IT WAS CONVERTED INTO THE DARK GRUMOUS MATTER COMMONLY CALLED "BLACK VOMIT;"[1]—WITH REMARKS.

FATAL Disease of the Encephalon not unfrequently terminates Certain Affections of the Organ of Hearing, which, in their first symptoms, presented nothing to distinguish them from common cases of otalgia or otitis.

Dr Abercrombie prefaces three instances of what he justly terms this "insidious and highly dangerous" malady, with the following brief descriptive summary.—"It generally begins with pains in the ear; and for some days may be considered merely as a common ear-ach. Sometimes discharge of matter takes place, which is expected to relieve the pain, but the pain continues or becomes more violent. The patient becomes oppressed and drowsy, then slightly delirious, often with shivering, and at last comatose. In other cases, there is no discharge of matter, but the patient, after complaining for a day or two of deep-seated pain in the ear, becomes restless and thoughtful,—lies rolling his head from side to side, or tossing about his arms, and in a short time sinks into coma. In other cases, again, the affection supervenes upon the sudden cessation of a purulent discharge from the ear, which perhaps had been of some standing, such as that which often follows scarlatina,—the sudden disappearance of the discharge in these cases is followed by pain in the ear, this, by languor and drowsiness, and in a few days by coma. The pulse is in some cases frequent, in others natural, and in others, below the natural standard. The nature of this disease is illustrated by dissection. There is generally caries of the pars petrosa of the temporal bone, sometimes confined to a small spot of it. A portion of the dura matter corresponding to this part is inflamed and thickened, spongy, or ulcerated, and generally detached from the bone. Between it and the arachnoid, there is commonly a de-

[1] This paper was read before the Med.-Chir. Society of Edinburgh on the 19th of February.

position either of purulent matter, or of false membrane, and this deposition sometimes extends along the tentorium. In some cases, there is a superficial abscess of the brain itself, or of the cerebellum, often with effusion into the ventricles, and the other usual marks of general disease of the brain. Matter is also frequently found in the cells of the petrous portion, in the canals of the ear, and the cavity of the tympanum, and sometimes it extends into the cells of the mastoid process."[1]

Bérard divides cases of internal otitis issuing in death from disease of the encephalon into two classes, viz. those of cerebral abscess *without*, and those of cerebral abscess *with* disease of the petrous portion of the temporal bone and its dura matter. Whether we regard, with some authors, the former class as metastatic or not, it is evidently in them chiefly, though not exclusively, that we are entitled to hope for recovery:—*not exclusively*, I say, for the records of morbid anatomy abundantly prove, that abscesses of the brain, as surely as those of the lungs, are often healed by nature, when aided by art;—or perhaps we must confess, even when struggling against the random performance of venesection and cupping, reckless purging, and the capricious exhibition of Indian hemp, or any other fashionable drug reputed cerebral.

HISTORY.

Hugh Wood, aged 43, a labourer, was admitted under my charge, into the Royal Infirmary of Edinburgh, on the 15th of August 1844.

The patient had several attacks of fever in November and December 1843, which, from his description, were evidently of that very interesting form of the disease, then so prevalent in Edinburgh. During convalescence from the last fit of fever,[2] he became affected with constant pain in the right ear, which continued to increase in severity. About the middle of May, that is, three months ago [before admission], some purulent matter began to flow from the meatus externus; and since the beginning of July, that is, within the last six weeks, this discharge has been very profuse. The pain has been less constant, and less acute, since the running commenced. For some time past, he has been losing strength and flesh; his spirits have been, during the same period, very depressed, and his mind uncomfortable, especially at night, when he generally suffers from watchfulness, even when the pain is comparatively slight.

When a patient in the Infirmary with the fever, he was under

[1] ABERCROMBIE.—Pathological and Practical Researches on Diseases of the Brain and Spinal Cord. Third and last edition, enlarged. Edinburgh: 1836. pp. 31, 32.

[2] It may be well to remind some readers that one of the most striking features of the Edinburgh Epidemic Fever of 1843–4, was the recurrence, once or oftener, of the febrile symptoms, with their original, or even with increased severity, after an interval of health, or convalescence. Vide MONTHLY JOURNAL for January 1843, p. 70, for extracts from my account of the Epidemic.

the charge of one of the clerks, by whom he was much purged, and two or three times leeched on the head. After leaving the Hospital he applied at the Dispensary, and was in consequence seen repeatedly, at intervals, by one of the pupils. Leeching and blistering over the left mastoid process and temple were the measures adopted by this gentleman. They produced little if any benefit.

STATE ON ADMISSION.

The countenance is depressed; the tongue is clean and dry; the skin is harsh and hot; and the pulse is rapid, but variable, both in number and strength. On closing the *left ear* and applying a watch to the vertex, he reports that he hears the ticking with the *left ear* only, and when the watch is placed on the head, nearer to the *left ear*, the sound is more distinctly heard than when it is applied to a more distant part of it, even though that be close to the *right ear*. When he makes a forcible expiration with the mouth and nostrils closed, air passes freely along the Eustachian tube, and issues forth at the meatus externus, indicating destruction to a greater or less extent of the membrana tympani, and structures of the tympanum. There is a good deal of pain, which comes on in paroxysms, and appears to follow the course of the fifth nerve. Pus flows pretty copiously at present from the left meatus externus.—*Tepid sponging of the whole surface of the body twice in the* 24 *hours, diaphoretics, mild laxatives, and the use of opiates to such an extent as may be necessary to secure sleep at night. The ear to be frequently fomented and washed with care.*

SUBSEQUENT REPORTS.

19*th August, Evening.*—Since admission on the 15th, the treatment then determined on has been followed, excepting the sponging, which has not been regularly performed. His general appearance is improved. The opiates have enabled him to get a good deal of sleep every night. In consideration of his improved health, and the goodness of the weather, he was allowed to leave the hospital for a short time, that the state of his ear might be examined at Dr Warden's house, with the advantage of his prismatic auriscope. There was seen, an opening in the membrane of the tympanum; and matter was observed issuing from the tympanic cavity. He complained of pain, and imperfect vision of the right eye.—*To have six leeches applied to the right temple; and a blister behind the left ear, which is to be kept open with issue ointment. A smart purgative to be given immediately.*

20*th August, noon.*—During yesterday afternoon I observed a slight dusky yellowish hue pervading his countenance; but as it was so slight, as to be matter of doubt to others, it was not reported. At this morning's visit, (*i.e.* at 10 A.M.) the clerk reports the yellowness of the face to have been very decided, though less

than at present. The yellowness is now very marked over the whole body, excepting below the knees. After the leeches were applied, severe pain of the head set in; its constancy and intensity were such as to cause complete sleeplessness. The pain is now confined to the right eye, and right side of the head. His countenance is much depressed, and affords a mixed indication of stupidity and pain. His conversation is more sluggish than usual, and manifests some degree of incoherency. Both pupils contract very imperfectly upon the application of a strong light; both irides are irregular; there is no increased vascularity in any of the structures of the eye. The purulent discharge from the left ear has been almost entirely suppressed since yesterday afternoon. He has no fixed pain, or tenderness on pressure, of the abdomen. The liver is distinctly enlarged, to a considerable extent. The spleen cannot be felt below the margin of the last rib; nor has any abnormal dulness been detected by percussion over its region.[1] The bowels are constipated. The tongue is dry, and coated with a white fur, except in the centre, where there is a clean ruddy band.—*To have two drops of croton oil administered just now; and, immediately after its operation, a draught containing eighty drops of the solution of the muriate of morphia.*—6 *o'clock* P.M. The croton oil has not opened the bowels. The same dose has therefore now been given. There is no improvement since the forenoon.—9 *o'clock* P.M. Soon after six o'clock, an enema was given, which, in conjunction with the croton oil, has acted briskly. The solution of the muriate of morphia ordered in the forenoon has just now been administered.

21*st August.*—The yellow tinge of the skin has greatly diminished; the countenance has become much improved; and the pulse is natural. There is still some pain of the head complained of, but it has lost its former severe and lancinating character. The left ear, and the blistered surface behind it, are both discharging profusely.—*The blistered surface to be kept running, by dressing it with issue ointment. No medicines of any kind to be administered unless the pain of the head increases, in which case an anodyne is to be given, and repeated if required.*

22*d August.*—He continues free from every alarming symptom. The pulse is rather deficient in strength. Attention being called to the scalp, it was found that there existed in it numerous small abscesses. The blistered surface has a very angry appearance.—*Let the head be shaved, and then enveloped in a succession of poultices. To have two ounces of port wine, which is to be continued daily, if the pulse do not become accelerated by its use. A purgative enema to be administered immediately.*

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[1] The spleen, I regret to say, was never examined by me in favourable circumstances, in consequence of the stomach being always at the time more or less distended with gas.

25*th August.*—The treatment since last report has consisted in obtaining a daily alvine evacuation, and keeping up the running from the open blister. To-day several small abscesses of the scalp were opened by oblique incisions. He is stronger, and has a better appearance than at last report. The wine agrees well with him.

26*th August.*—The small incisions in the scalp have healed by the first intention; and no more matter seems to be forming near them.

27*th August.*—His appearance continues upon the whole to improve, but his countenance is still expressive of pain, and his skin remains decidedly yellowish, though to a much less extent than formerly. The irides exhibit the same irregularity as was described in the report of the 20th, but they contract better under the influence of light. Upon being questioned as to the state of his head, he said, that there was much pain across the forehead, and in both eyes. Bowels confined.—R. *Ext. hyosc. nigri, oxidi zinci, ā gr. xlviii; Misce. et div. in pil. xij. Sig. One to be taken morning and evening. To take six grains of the pure resin of scammony immediately, and a similar dose every two hours, till the bowels are freely moved.*

28*th August.*—He is out of bed to-day, and walks through the ward with less indication of debility than on admission. He thinks himself much better than when admitted to the hospital; but this is not the case. There is much less pain in the eyes and frontal region than yesterday. The blister looks ill, and exhibits some small ash-coloured sloughs. The bowels were freely moved after three doses of the scammony. Two of the pills of henbane and oxide of zinc have been taken.—*The blistered surface to be dressed with a lotion of chlorinated soda.*

29*th August.*—He says that he is very much better, in every respect, and that the pain in the frontal region is less severe. The blistered surface has a more healthy appearance; the bowels are regular, and the pulse 80. Hearing is more acute, and the discharge from the ear considerably less. In consideration of the fineness of the day, and the statement of urgent domestic reasons for his visiting his family, he is allowed to go out on a pass for some hours.

30*th August.*—The nurse stated that soon after the visit at noon yesterday, he left the ward with his temporary leave of absence, and has not since returned.

5*th September.*—I heard no more of him till to-day, when I was kindly invited by Dr Craigie to attend his autopsy. It appears that on the 1st he engaged himself as a reaper, and worked actively as such in the harvest field, till the afternoon of the 3d, when it was judged necessary to send him to the Infirmary, where he arrived in a cart, at 9 P.M. of that day, and was placed by the admitting clerk in one of Dr Craigie's wards. He was then in a state of high

delirium, and evidently suffering from intense pain in the head. These symptoms increased in intensity till 4 A.M. of yesterday, the 4th, when death closed his sufferings.

EXAMINATION OF THE BODY THIRTY-FOUR HOURS AFTER DEATH.

General aspect and condition of the body.—The skin had some, but not so much, of the same dusky yellow hue which it had when I last saw the patient in life. The scrotum and neck exhibited livid patches, such as are often seen in persons expiring suddenly, or dying from fevers and other diseases, in which the blood is abnormally fluid and deficient in fibrin.

Head.—The convolutions of both hemispheres of the brain, when looked at from above, were seen to be very much flattened. Both lateral ventricles were greatly dilated with purulent matter. Upon cautiously examining the left lateral ventricle, there was found a large passage, filled with pus, leading from it into the right ventricle. This opening was of a lozenge shape, measuring fully an inch longitudinally, and half an inch transversely; it was situated above the fornix, the septum lucidum being broken down. At the posterior corner of the right lateral ventricle, was a small opening, leading from the ventricle into an abscess containing opaque, well-formed, yellow purulent matter. When this cavity was empty, it looked sufficiently large to contain a walnut; its walls were vascular and firm, except around the margin of the opening which led into the ventricle; in this situation they were a little soft. The source of this pus was not ascertained with certainty, but it was supposed to have come from the abscess already mentioned, as there existed no softening nor abnormal state of the surface of the cerebellum. The right choroid plexus was preternaturally bulky, had a firm dense feel, and presented on its surface some flakes of adherent lymph. There was no pus found in any of the veins of the head, nor was there any trace of inflammation detected in them, unless the state of the right choroid plexus be so regarded.[1] The left choroid plexus contained a number of hydatiform cysts. The internal surface of the left ventricle was generally softened; and particularly the upper part of the optic thalamus, which was also broken down. Over the pons Varolii there was found a quantity of pus, which extended over the surface of the cerebellum, and into the fissure between its lobes. The right temporal

[1] DANCE and others have shown that *most commonly* in the case of "Metastatic Abscesses" phlebitis takes place in the seat of the original injury or disease; and that this is the source from which the pus enters the circulation.—*Archives Générales de Médecine*, tomes xviii. et xix. Vide also "A Pathological Inquiry into the Secondary Effects of Inflammation of the Veins:" By JAMES M. ARNOTT, Surgeon. (*Med.-Chir. Trans. of London*, vol. xv. p. 1.); "Pathological Researches on Inflammation of the Veins of the Uterus," &c. By ROBERT LEE, M.D. (*Med.-Chir. Trans. of London*, vol. xv. p. 369); and Observations on Depositions of Pus and Lymph occurring in the Lungs and other Viscera, after Injuries of different parts of the body:" By THOMAS ROSE, ESQ. (*Med.-Chir. Trans. of London*, vol. xiv. p. 251.)

bone was covered with thick dura mater, and the petrous portion seemed to yield on firm pressure. The bone was removed for subsequent examination; but I regret to say that from an oversight, it was mislaid or lost before any farther investigation had been made into the state of the auditory apparatus.

Thorax.—There were portions of both lungs somewhat condensed. The lining membrane of the bronchial tubes was very red; and the tubes themselves contained some blood-stained mucus. The heart was healthy.

Abdomen.—The stomach contained about half a pint of a very dark grumous fluid, [altered blood.] Upon thoroughly washing the stomach, it was found that its internal surface retained a deep dark colour, which was dependent partly on congestion of the mucous membrane, and partly on effusion of blood into the sub-mucous cellular tissue. Every part of the inner surface of the stomach was easily torn by the nail; and at the cardiac end, there was a large patch quite soft, disorganized, and black. I was obliged to leave the theatre before the rest of the intestinal canal was examined; and from this circumstance I am unfortunately unable to say anything regarding it, except that I am informed that throughout, it was highly congested, and in some parts, black-looking. The spleen was about three times its natural size, and very soft. The liver was apparently somewhat larger than usual, but was not overloaded with blood. It was of normal consistence and colour, and was not observed to present any indication of disease. The gall-bladder contained some thickish bile. Both kidneys were highly vascular, and exhibited the characteristic appearance of Bright's disease in its first stage.

REMARKS.

The points of interest in this case are numerous, as well as important, and some of them might afford ample field for improving discussion. On this occasion, however, I will simply state what appear to be two of the chief of them, as I know that the time of the Society is at present more than usually precious.

1. The fact of there being no communication between the disease of the temporal bone, and the purulent collection within the brain, points out, that this case was probably curable in its first stage, by the energetic use of local and general antiphlogistic remedies. We are also led by the same fact, to believe, that at a later period—when pus had formed within the middle and internal ear—benefit would have accrued from anticipating nature, and affording an egress to the matter through an artificial opening in the membrane of the tympanum.

2. The case corroborates views which I have elsewhere insisted on at some length;[1] viz. that certain poisons, such as pus, contagious

[1] Natural History, Pathology, and Treatment of the Edinburgh Epidemic Fever of 1843. London: John Churchill, 1843.

emanations from persons in a state of disease, and putrid miasmata, when introduced into the system in large quantity, or in a concentrated form, cause hemorrhages, yellow skin, black-vomit, and hyperœmia or passive congestion of the spleen and mucous tunic of the bowels,—symptoms alike exhibited in the case now detailed, in a variety of instances of traumatic fever seen and published by Ballingall and Larrey, in many persons affected with the late Edinburgh Epidemic Fever,[1] and still more frequently, as is well known, in some pyrexial disorders, styled by authors, "bilious remittent," and "yellow fever."

The poisons enumerated, as well as others, first induce a certain change in the circulating fluid, which is mainly characterised by a deficiency of fibrin, a diminution in the number of the blood-globules, and in their being altered in form, ragged, and broken. This state of the blood is always accompanied by more or less hyperœmia, or passive congestion; and when present in a high degree, manifests itself in such phenomena as yellow skin, livid patches on the surface simulating contusions, hemorrhages, black-vomit, as well as in what some authors (without justifying their terms by a satisfactory anatomical explanation), designate "inflamed" and "gangrenous" intestines.

ARTICLE V.—*Removal, by Operation, of a piece of Window-Glass from the Larynx of an Indian boy. By* GEORGE V. CUMMING, M.D., *Surgeon 12th Regt. Madras Native Infantry.*

MY DEAR SIR,—I submit to you the following case in the hope that it may find a place in your MONTHLY JOURNAL, from the perusal of which I derive so much pleasure and instruction in this remote land.

I can assure you, the monthly arrival of your practical and comprehensive publication is hailed with interest by the profession in this part of India. Believe me to be, yours respectfully,

G. V. CUMMING, M.D.

QUILON, December 13, 1844.

To Dr JOHN R. CORMACK, &c. Edinburgh.

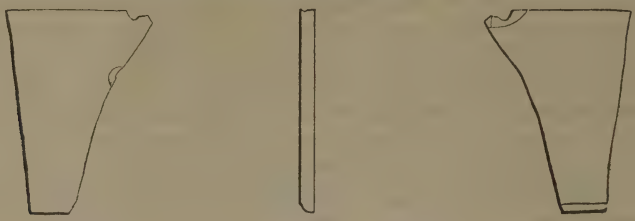
On the 20th April, 1844, a boy aged 11, named Kooneyaden, son of a weaver, was brought to my house by two men,—one of whom presented to me a note from the Rev. Mr Pattison, informing me, that, as he himself had just been told, a piece of glass had stuck in the child's throat. The boy was in great pain, and the breathing

[1] The same fever, very variously modified, (if reliance can be placed in all the published accounts,) prevailed at the same time, in Glasgow and many other places. Notices of previous and somewhat similar epidemics which occurred here and elsewhere will be found in my treatise already mentioned.

suffocative, laborious, of a sawing-like nature, and so loud, that it could be distinctly heard at the distance of several yards. The account given by the men, who spoke Malayalim, was, that the boy when returning as usual from his grandfather's house, about 5 P.M. the previous day, playing at the time with a piece of glass in his mouth, fancied himself suddenly chased by a cow,—and that, while in the act of throwing a stone at the animal, calling out at the same moment for help, the glass quickly slipped down his throat, when he instantly fell, insensible,—but some people then passing, immediately picked him up, and conveyed him home, prior to which he had rallied a little,—but the child's sufferings still increasing, they had carried him in, a distance of six miles. The boy, unable to speak, when asked where the pain was, pointed with his finger to a spot midway betwixt the thyroid and cricoid cartilages. This, on further questioning, he did repeatedly; but as the glass was described as very large, and with a sharp end, I could not believe that it had entered the larynx. For a moment I thought it might have passed into the œsophagus, but the nature of the breathing immediately convinced me, that the foreign body must be lodged in the air-passage. I had the boy at once conveyed to my hospital, and as the symptoms were of the most urgent description, I proceeded to the performance of tracheotomy. The patient being placed on a table, the first incision was commenced a little below the cricoid cartilage, and carried down, in the median line, about an inch and a quarter, or near to the top of the sternum. This incision penetrated only through the skin and subjacent cellular tissue. After fairly dividing these parts, the sterno-hyoidei and sterno-thyroidei muscles were next separated with the handle of the scalpel, and the trachea exposed. The point of the instrument was now introduced, and two of the rings divided longitudinally. The opening, however, was not at first sufficiently large,—the incessant struggling of the boy rendering it difficult to fix the trachea. At length I succeeded in increasing the incision, and made several attempts with the probe to discover the foreign body, but all were fruitless. Once or twice, indeed, in pushing the instrument upwards, I thought that I felt the glass, but as the boy invariably started up to the sitting posture, almost suffocated after each attempt, I could not recall the sensation. When the probe was pushed downwards his sufferings were still greater. Starting up, he then always spat blood. In short, after the little patient had been nearly three-quarters of an hour on the table, I despaired of success; and, in the hope that I might be more fortunate with day-light, I introduced the canula, merely with the view to keep the opening for breathing pervious. On pushing it upwards, it accidentally slid up to the hilt, when the boy immediately sprang up, as if to vomit, and placing his hand on his mouth, produced the bit of glass. The happiness which I felt at so unexpected a result, I shall not attempt to describe.

The boy, on the escape of the glass, felt instant relief. He, however, almost immediately after, discharged by the mouth a quantity of frothy blood. The respiration was now chiefly characterized by the whizzing noise, occasioned by the aperture in the trachea. But little hemorrhage having taken place, no vessels were required to be secured. The lips of the wound were brought together with one or two separate stitches, 12 drops of laudanum given, and the little patient put to bed.

Next morning he was comparatively easy. On the third day, the respiration became natural. The wound healed in about three weeks; and in the space of a month he returned to his family, in every respect as well as before the occurrence of the accident.



Of the above sketches, the two larger are drawings of the glass,[1] showing its two *surfaces*, and giving the precise shape and size. The little transverse drawing exhibits its thickness.

PART SECOND.

REVIEWS.

Traité des Phénomènes Electro-Physiologiques des Animaux. Par C. MATTEUCCI. 1844. Pp. 342.
Treatise on the Phenomena of Animal Electricity. By C. MATTEUCCI.

(*Concluded from page* 222.)

The Remaining Portion of the First Part of the work is occupied with the details of his numerous experiments upon the torpedo, and with an account of the electrical phenomena of the gymnotus electricus. These we shall pass over at present.

[1] Dr Cumming transmitted the piece of glass along with his MS.; and it was exhibited to the Medico-Chirurgical Society of Edinburgh, on the 19th February, when the case was detailed.

In the First Chapter of Part Second of his treatise, he examines the "general laws of the contractions and sensations excited by the electric current in the motor and sensitive nerves of animals alive or recently killed." It is well known, that when a galvanic current from a battery of more than twenty plates, is transmitted through a considerable part of the body, and along some part of the nervous system, in a living animal, its muscles are thrown into contraction, its back is curved, and it gives indications of suffering. When the current is not very strong, the convulsive movements, and the indications of suffering cease, soon after the current has been completed, but are renewed for a moment when the current is again broken. When this experiment is made upon an animal immediately after being put to death, the phenomena, as far as they relate to the convulsive movements, are the same as in the live animal, but those that relate to sensation are of course awanting. After giving a *resumé* of the principal experiments of Nobili, Lehot, Bellingeri, and Marianini, on the subject under discussion, and pointing out some discrepancies in their experiments, and in the conclusions drawn from these, he proceeds to detail his own. He took a live rabbit, and having secured it in the manner requisite, he laid bare the great sciatic nerve in both limbs at the upper and back part of the thigh, and isolated them by passing below them a band of varnished taffeta, and wiping them with bibulous paper to remove the moisture. Along one of the nerves he passed the *direct* current, and along the other the *inverse* current and the distance between the wires of the battery applied to each of the nerves, was at least from one to two centimetres. When a single pair of plates was used, contractions were excited in the muscles of the leg, both at the closing and opening of the circuit of the direct and inverse currents, without producing any indications of sensation, or any contraction in the muscles above the part experimented on. After continuing the experiment for some time, the contractions of the muscles of the leg occurred only at the commencement of the direct, and the interruption of the inverse current. In experimenting with a voltaic pile of ten pair of plates, the muscles of the legs of the posterior extremities were not only thrown into contraction, but also the muscles of the trunk and other voluntary muscles were convulsed, and the animal gave indications of severe suffering. At the commencement of the experiment, these phenomena presented themselves at the closing and opening of the circuit, both of the direct and inverse current, but it appeared, in general, that the signs of pain were strongest at the commencement of the inverse current, and that the muscles were more powerfully convulsed at the commencement of the direct current. In continuing this experiment, without intervals of rest, upon the same animal, a change in the phenomena presents itself. At the commencement of the *direct* current, the convulsive movements are limited to the muscles of the leg below the part of the nerve experimented on, and the animal appears to suffer no pain; while at the interruption of this current, the muscles of the leg contract feebly, and those of the back are thrown into convulsive movements, and the animal frequently utters the cry expressive of pain. In operating with the *inverse* current upon the nerve of the opposite limb, the order of these phenomena is completely changed. The muscles of the leg scarcely contract, while the convulsive movement of the muscles of the back, and the cry of pain occur at the commencement of this current; and at its interruption, the muscles of the leg contract forcibly, but the convulsive movements of the muscles of the back, and the indications of suffering are not manifested. It is apparent from the above experiments, that the effects resulting from the galvanic excitation of the nerves may be referred to two distinct periods only. In the first, the excitation of the nerve is transmitted both upwards to the spinal cord, and downwards along its ramifications in the muscles, both at the commencement and the interruption of the current, and independently of its direction. In the second period, the excitation of the nerve is transmitted downwards at the commencement of the *direct*, and on the interruption of the *inverse* current; while it is transmitted upwards when the inverse is commenced, and when the direct current is interrupted. The contraction of the muscles of the leg below the part of the nerve experimented on, is in both cases the result of the excitation of the nerve

directly transmitted along the motor filaments to the muscle, while the contraction of the muscles of the trunk is an excito-motory movement, induced by the transmission of the excitation, upwards along the efferent or incident nerves to the spinal cord.

In Chapter II, he investigates the mode of action of an electric current, when it passes at the same time through the nerves and the muscles in animals alive or recently killed. He confirms the experiments of Müller and others, that when a nerve leading to a muscle is cut through, and a certain time is allowed to elapse, the nerve will lose its excitability before the muscular fibre. He also confirms the experiments of Dr Madden, that when an animal is killed by narcotic poisons, excitation of the nerves leading to the muscles fails to produce any contraction, while the same excitation applied directly to the muscles, will cause powerful contractile movements. From these experiments, he concludes, that the property of contractility is inherent in the muscular fibre; that the muscular contractions caused by the excitation of a motor nerve, is the result of the action of this excitation upon this property of contractility possessed by the muscular fibre; and that it is essential to the maintenance of this property of contractility in the muscular fibre, that the conditions necessary for carrying on the function of nutrition in that tissue be present. We need not point out to those conversant with physiology, how closely these conclusions accord with the Hallerian doctrine of irritability, and with those arrived at by Dr J. Reid, in an experimental memoir contained in an early number of this Journal. (Vol. i. p. 320.) Matteucci repeated the well-known experiment of Humboldt, of removing all the visible filaments of nerves from a portion of muscle taken from a living animal, or shortly after it has been killed, and then exciting it by galvanism. In frequent trials, he found that the muscular fibres still retained their property of contractility, and that whatever was the direction of the current relative to that of the muscular fibre, the contractile phenomena were the same. On the other hand, when the electric currents were directed at the same time through the muscles and nerves of the limbs of a frog immediately after death, the same phenomena presented themselves as when the currents were directed only through a portion of the large nerves leading to those limbs, and which we have already described. The phenomena which manifest themselves when currents of electricity are transmitted simultaneously through the muscles and nerves, are therefore chiefly due to the action of the currents which run along the nerves ramified in the muscles.

In Chapter III he details experiments to prove, that when the electric current passes directly across the trunk of a nerve, it does not excite contractions in the muscles in which the nerve is ramified.

In Chapter IV he examines the causes which modify the action of the electric current upon the nerves. Volta, as we have already mentioned, ascertained, that when the muscular contractions had become very feeble by continuing to pass the current along the nerve in one direction, strong contractions may be produced in the same muscles by directing the current in the opposite direction. This is called "*d'alternatives voltianes*," and has been carefully examined by Marianini. These phenomena are illustrated by an experiment of this kind. The bones of the pelvis and the adhering muscles are removed, without injuring the lumbar nerves, from a frog prepared in the manner of Galvani, so that the two limbs are united together by the lower part of the spinal cords and the lumbar nerves. Each foot is placed in a glass vessel full of water, and one wire of the galvanic apparatus is introduced into one of the vessels, and the second wire is placed in the other vessel. When this arrangement has been made, one limb is traversed by the direct, and the other by the inverse current. By continuing the experiment, the contractions of the muscles gradually become feebler, and at last remain quiescent under this excitation. By reversing the wires, so that the limb which was previously traversed by the direct, is now traversed by the inverse current; and the limb traversed by the inverse, is now traversed by the direct current, strong contractions of all the muscles of both limbs again manifest themselves. When the muscles cease to respond to this new excitation, contractions may be again

renewed in both limbs by reversing the wires. These alternations continue for a greater or less time—longer when the muscles possess the property of contractility in a greater degree, and the currents of electricity are not too intense, and shorter under the opposite circumstances. These phenomena of alternation are dependant upon the nerves; for on repeating the experiment upon a portion of muscle from which the nervous filaments have been removed, its contractions are not renewed, by reversing the wires. This change in the direction of the current along the nerve, has the same effect upon the excitability of the nerve as a period of repose; for when a current is directed in one direction along a nerve, until the muscles cease to contract, if an interval of repose be allowed, the nerve will recover its excitability, and the same current will, when reapplied to the nerve, again produce powerful contractions. He has also proved, 1st, That the passage of an electric current along a nerve enfeebles its excitability in a different manner, according to its direction; and, 2d, That the passage of a direct current renders the nerve less excitable by this current, than the passage of the inverse current does. The excitability of a nerve is sooner exhausted by an uninterrupted current, renewed at very short intervals, than by a continued current. The application of a firm ligature between the muscles and the part of the nerve traversed by the electric current, prevents the excitation of the nerve being transmitted downwards to the muscles; and no contraction ensues.

When an animal is killed by an electric discharge, the nerves lose their excitability, while the muscles still continue contractile upon direct excitation. When an animal is poisoned by narcotic substances, the nerves after a short period lose their excitability, while the muscles still retain their contractility.

In Chapter V he examines the effects of the electric current upon the central organs of the nervous system. When the wires were placed either upon the surface of the brain and cerebellum, or were plunged into their interior, the animal gave no indications of suffering, and the muscles remained quiescent; and it was only when the wires were carried to the parts at the base of the brain, that convulsive movements and signs of pain were observed. The action of the electric current upon the different parts of the encephalon, is therefore the same as that of mechanical and chemical excitants, as ascertained in the experiments of Flourens and others. He also verified the results obtained by Müller, in his experiments upon the effects of galvanic excitation of the anterior and posterior roots of the spinal nerves, and has thus given an additional confirmation of the truth of Sir C. Bell's doctrine of the different functions of these nerves.

In Chapter VI, he examines the effects of the action of an electric current upon the nerves of sense, and upon the ganglionic system of nerves. The electric current produces the same excitant effects upon the nerves of sense as various mechanical stimulants do. Volta showed, that when an electric current traversed any point of the optic nerve, it produced a sensation of light; and when sent along the auditory nerve, it caused a sensation of sound. The electric current, also, excites the sensation of taste, when it is made to act upon the gustatory nerves.

Matteucci repeated, and with the same results, the experiments of Humboldt and of Müller, upon the effects of galvanic excitation of the cardiac and splanchnic nerves upon the heart and intestines. He states, that the galvanic excitation does not renew the muscular movements of these organs, until a certain time after the circuit has been completed, and they continue for a short period after the circuit has been interrupted; and in this respect the galvanic excitation of the ganglionic system is exactly similar to that from the application of certain mechanical and chemical excitants. He never observed any difference between the action of the direct and inverse currents in these experiments. He admits, that he has not been able to make these latter experiments so accurately as he could have wished, from his want of a sufficient knowledge of anatomy. There is one source of fallacy in conducting such experiments, of which Matteucci is perhaps not aware;—and it is this. The movements of the

heart and intestines often become suddenly increased in strength, or are renewed after a period of quiescence without any apparent cause, so that an experimenter not fully aware of this fact, may take the *post hoc* for the *propter hoc*.

In Chapter VII he points out the differences between the action of the electric current, and that of other stimulant agents. These inferences are drawn from the facts established by the experiments detailed in the previous chapters, and are as follows:—

1. The electric current alone can, according to the direction in which it traverses a nerve, excite separately, either a sensation or muscular contraction.
2. The electric current alone, when it acts upon a nerve in the transverse direction, produces none of the phenomena due to the excitation of the nerve.
3. The electric current alone produces no effect during its continuous excitation of the nerve.
4. The electric current alone excites the nerve, when it ceases to act.
5. The electric current alone can re-establish the excitability of a nerve, when it is transmitted in a direction contrary to that of the current which had enfeebled this excitability.
6. The electric current is of all stimulant agents that which acts the longest upon the excitability of the nerve.

All the principal experiments detailed in this work, are illustrated by engravings, by which the reader is enabled to comprehend clearly the nature of the experiments, and the exact mode in which they were performed.

In Chapter VIII he discusses the relation between electricity and the nervous influence. It is well known, that many physiologists have maintained, that electricity and the nervous influence are identical; and that Dr Wilson Philip, Dr Edwards, and others, have adduced various experiments in favour of this opinion. The ascertainment of the fact, whether a current of electricity passes along the nerve during the performance of a voluntary muscular movement, or of any other action influenced by the nervous system, is justly considered an *experimentum crucis* on this question, and it is of the greatest importance for its just decision to have the results of so experienced and accurate an experimenter as Matteucci. He says, "Others, and I also, have searched in vain for proofs of the existence of an electric current in the nerves of a living animal. I cannot here detail all the experiments and observations by which others have supposed that they have proved its existence; I have most carefully repeated and varied them, and I do not hesitate a moment in declaring that I have found nothing proved, and nothing conclusive." He then describes the experiment he instituted to determine if currents of electricity were transmitted along the nerves in a living animal; and though the instruments employed were of great delicacy, and were capable of indicating the presence of very feeble currents of electricity, yet they never did so. The rest of this chapter is occupied with some hypothetical speculations on the nervous influence, which need not detain us.

In the Last Chapter he discusses the Therapeutical Uses of Electricity. From the facts ascertained in the experiments upon the *alternatives voltianes*, he concludes that, when the paralysis depends upon loss of motion, it is the inverse current which should be applied, and when it depends upon loss of sensation, the direct current should be used. In these cases, where there is paralysis both of motion and sensation, we have no rule to guide us in the direction of the two currents. Experiment instructs us, that when currents of electricity are transmitted continuously, or at very short intervals, through a healthy nerve for a certain time, that it loses its excitability, and this the more rapidly, as the intensity of the currents is greater. In using electricity as a therapeutical agent, this fact must be kept in remembrance, otherwise we may increase the evil which we wish to cure. "Theory," he says, "would lead us to apply the electric current of an intensity which ought to vary with the extent of the disease, and to make this current pass for two or three minutes, at intervals of some seconds. After these two or three minutes, during which we may give from twenty to thirty strokes, the patient should be left in repose for a certain time, when we may again renew the treatment." The

Electro-Magnetic Apparatus has of late been much used in applying this agent therapeutically, and is very convenient, as we can so readily regulate its intensity. He believes that galvanism might be advantageously employed in cases of tetanus, since it has been proved that the excitability of the nerves may be enfeebled by the transmission of an electric current along them, when continued for a certain time. He mentions one case of this kind already published, in which he directed the application of electricity with apparent temporary benefit, but the case ultimately proved fatal. He does not, however, suppose, that the application of this agent would generally cure tetanus, but he believes that he is right in stating that it would have the effect of alleviating the severity of the pain. As the most formidable part of the disease of tetanus consists in an increased excitability of the spinal cord, any application of galvanism to the nerves leading to the convulsed muscles, would of course fail in removing the condition upon which the existence of the disease chiefly depends. With regard to the proposal lately made to destroy the opacity of the crystalline lens by means of electricity, on the supposition that the opacity depends upon the presence of coagulated albumen, he remarks, that he has never been able to dissolve coagulated albumen by the use of a galvanic plate even much stronger than what the eye could bear with impunity. It is, therefore, possible to form a cataract by the application of galvanism, but it is not possible to dissolve it. The electric current has also been proposed as a remedy in cases of stone in the bladder, but he remarks, that urinary calculi cannot be decomposed by the electric current, unless it be of great intensity, and used for a long time continuously. In speaking of its therapeutic effects, he does not refer to its successful application by Froriep of Berlin in cases of chronic rheumatism.[1]

The work of Matteucci is accompanied with an elaborate anatomical description of the nervous system, and of the electrical apparatus of the torpedo by Paul Savi. J. R.

A Practical Treatise on the Diseases peculiar to Women, illustrated by Cases, derived from Hospital and Private Practice. By Samuel Ashwell, M.D., *Member of the Royal College of Physicians, Obstetric Physician and Lecturer to Guy's Hospital.* pp. 737. London: Highley, Fleet Street, 1844. Part III.

We have twice expressed a very favourable opinion of Dr Ashwell's undertaking,—which the present Part brings to a close. The subjects embraced in the treatise are of extreme importance; and it rarely falls to the lot of one practitioner to have an opportunity of studying the diseases of females on so large a scale as the author of this work. For nearly twenty years, we are informed, in the preface, he has had all the advantages afforded by the extensive lying-in charity of Guy's Hospital, in addition to his own private and consultation practice. The immense number of interesting cases, illustrative of the text, give us some idea of the extent of the field of observation upon which the views and doctrines advanced are founded; and the style of the work is always clear and perspicuous. It is, however, not a book well suited for analysis; the opinions advanced must be studied in connexion with the cases. We intend, therefore, simply to give the table of contents, and a few passages illustrative of the manner in which the various topics are handled.

Part III. contains,—Organic Diseases of the Mucous Membrane of the Cavity of the Uterus; Polypus of the Uterus; Displacements of the Uterus; Diseases of the Ovaries; on the Diseases of the External Organs of Generation in the Female. Appendix,—On the Morbid Consequences of Undue Lactation; Case of Pregnancy, complicated with Abdominal Tumours; Induction of Premature Labour.

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[1] *Vide* Froriep's Beobachtung über die Heilwirkung der Electricität., 1843.

Cases of the following description are fortunately rare:—

"I have never seen a true case of [uterine] TYMPANITIS—one where the air has been the product of morbid secretion from the uterine vessels, and where, from closure of the os, it has been allowed to collect for weeks or months in the uterine cavity, and has then, either spontaneously or by operation, been expelled; but I have several times been called on to cure explosions of gas from the vagina, which, forming in the uterus, escaped involuntarily, and with so much noise, as to prevent the sufferer from venturing into society. In one patient, pregnancy always cured the disease; and Gooch confirmed the uterine origin of the gas in these slighter affections, by the fact, that in a patient of his, the instant pregnancy occurred the malady ceased, returning a few weeks after delivery. Idiopathic uterine tympanitis is no doubt an exceedingly rare disease. Physometra, on the contrary, dependent on chemical change in the secretions, although a rare, is a more common affection. Thus the menstrual fluid, the vaginal and uterine mucus, coagula resulting from menorrhagia or dysmenorrhœa, the ichor of cancer, portions of placenta or of polypi, may, by their partial or entire decomposition, give rise to larger or smaller quantities of gas. A few months ago I had to remove a large mass of partially adherent placenta, which for three weeks subsequent to labour had caused frequent and large hemorrhages. On entering the uterine cavity, which was partially blocked up by a firm coagulum, Mr Woolnough, a student of Guy's Hospital, and myself, were surprised by the escape of an immense quantity of fœtid gas, doubtless the consequence of the putrefaction of the retained viscus.

"The *Diagnosis* cannot be difficult, for although menstruation is suspended, and the abdomen becomes enlarged, and, according to Frank, milk is secreted, still there will be so much elasticity about the tumour, and such disproportionate increase at an early period of the supposed pregnancy, that doubt must arise. This doubt will soon become a certainty as to the non-existence of gestation, by the partial or entire expulsion of the air, and by the consequent diminution of size. A fall or blow, even the sudden bending forward of the body, sneezing, coughing, or vomiting, have induced the discharge of the gas, succeeded by the escape of a more or less sanguineous fluid.

"*Treatment.*—In cases where such accidental circumstances have not led to the cure of the disease, or where the gaseous accumulation causes severe and extensive pain, nausea, and vomiting, or difficult breathing, the introduction of a canula, or a long and elastic, yet firm male catheter, will certainly open a channel for its escape. How long the instrument should remain, will depend upon the evacuation of the air, and on the likelihood of irritation and inflammation; nor will the management be quite so simple, if adherent masses of placenta, polypoid, or fungoid growths, are the causes of the disease. Some authors, in order to effect a permanent cure, advise the injection into the cavity of the womb of warm water, weak solutions of chlorine, and chalybeate and astringent lotions. My present experience, independently of the frequent dangerous results of such uterine injections, would lead me to believe that they can very seldom be necessary. The strong alum hip-bath, iron, the various tonics, (and in some protracted cases) mercury and sarsaparilla, may be required."—Pp. 503–505.

The author's remarks on PESSARIES we think, will be perused with interest and advantage:—

"Before describing the various kinds of pessaries, it may be well to dispose of the objections urged against these instruments, by Dr Hamilton and other writers. It is affirmed, that pessaries can only act as palliatives; that they cause irritation and leucorrhœa; that they make injurious pressure on the contents of the pelvis; that if not frequently removed, they become encrusted with a calcareous matter, which may lead to ulceration even into the rectum, putrid discharges, and fungous and malignant growths; that patients, while wearing them, have suffered from irritation of the bladder and protracted constipation; and that cases from time to time occur, where, from the laceration of the perineum, no ordinary pessary can be retained; and, lastly, that they subject the patient to the charge of the medical attendant for life.

"It is not true, that pessaries never act but as palliatives. I have known many instances of their employment for several months, no other treatment having been resorted to, where a perfect cure has been obtained; so perfect, indeed, that on removing the pessary, the descent has not again taken place. But if this objection were allowed, it would detract but little from its value, as the recumbent posture, astringent injections, tonics and cold, are far more efficacious with, than without the pessary. Irritation and leucorrhœa may be produced; and I know there are patients, who, on these accounts, cannot wear it; but how few are these compared to the number where such evils subside in a few days, if the pessary has been accurately selected as to size. I have often, indeed, heard the remark, that so far from there being annoyance, there has scarcely been any consciousness of the presence of the artificial support. That ulceration into the rectum, although probably not more than one such instance ever occurred, may have been occasioned by too large a pessary, or by its incrustation, cannot be denied. But how easily might such evils have been prevented? Surely if these dangerous consequences are not inevitable, they cannot be adduced against the judicious employment of the remedy. On one occasion at Guy's, I had some trouble in taking away a caoutchouc pessary, which had become hard from the calcareous deposit of eight or nine years, it never having been removed during the whole of that time; but on my making some severe remark to the woman on her neglect, she simply replied, that the comfort she had derived for the years she had worn it, far outweighed any suffering she had latterly endured. She went out of the hospital quite recovered in a few weeks, and never afterwards, at least to my knowledge, had a return of the procidentia. I scarcely know any cases where irritation of the bladder, strangury, or constipation, have continued beyond the first fortnight after introduction, if excessive exertion and errors of diet have been avoided. There are examples where, after replacing the parts and introducing a pessary, excitement, pain, and fever, run so high, that abdominal inflammation may be feared. In such, probably, the mischief is more consequent on the reposition than on the pessary; but be this as it may, the instrument should be removed, and the uterus permitted again to come down. Bleeding from the arm, fomentations and poultices, leeches to the abdomen, and purging may be required; and for some days or weeks the attempt ought not to be repeated. If the pulse again rises, and the same evils are threatened, the reposition will be frustrated, and such a case may be one in which the uterus must remain procident. Laceration of the perineum certainly prevents the beneficial employment of the common pessary; but I cannot conceive why such an exception should be taken. These lacerations are happily exceedingly rare;—as compared with procidentia of the uterus the proportion must be small indeed; and it certainly cannot be fairly objected to any instrument, that it is not applicable to cases for which it was not designed. The circular ring pessary, the one in most general use, was intended to rest on the flooring of the vagina. Without such a foundation it cannot be employed, and this very flooring is often entirely destroyed by laceration of the perineum.

"Dr Hamilton lastly asserts, 'that pessaries subject the patient to the charge of the medical attendant for life.' Is not this contradicted by every day's experience? Women take out, wash, and replace the pessaries themselves. I have known many who do this, and who only apply to their medical attendant in some unusual emergency, or when they think the size of the support requires diminution. The pessary is certainly not a perfect instrument; but how rarely, in the treatment of diseases, have we the choice of remedies so good as to be without some imperfections. Does it not much more frequently happen that our choice is limited? Procidentia is an evil; the wearing of a pessary is an evil also; but it does not require any great discrimination to perceive, or candour to acknowledge, that the greater evil by far is the procidentia; and that the lesser evils of the pessary are merged in the benefits it so constantly confers.

"A good pessary should be light, hard, and smooth, and so accurately adapted to the size of the vagina, that whilst it supports the uterus, it should produce

neither pressure nor abrasion, and certainly not interrupt the evacuations of the bladder or rectum.

"To fulfil these conditions, the ingenuity of medical men has been largely taxed, and many pages would be required for a summary only of their various inventions. Gold, silver, lead, iron, sponge, cork, elastic gum, and boxwood, have all been used. The last is by far the best material, as it is light, and yet of hard texture, and so close in its grain, that it is not acted on by the discharges; being also, when well polished, perfectly smooth.

"The *circular boxwood*, or ring pessary, is that in most common use. Its edges are round and smooth, with a central aperture for the tip of the finger to alter its position, or to assist in its removal, and to permit the escape of any natural or morbid discharges. In the construction of this form, care should be taken that the outer margin is tolerably thick, by which better support is afforded to the uterus, and there is less risk of any injurious pressure or abrasion of the inner surface of the vagina. It is also of still greater importance, that the central hole be not too large. A small aperture will suffice for the purpose already mentioned; a larger one will allow the entrance and strangulation of the os and cervix,—an accident exceedingly painful to the patient, and perplexing to the practitioner. In a case lately, I had to scarify freely before the cervix could be set at liberty. It is probable, that many of the cases of inflammation, ulceration, or gangrene, have had such an origin. But this could never happen, if, instead of an aperture large enough for the thumb, as it often is, there be one so small as to admit only the tip of the fore finger. Laundy has for many years made all the pessaries used at Guy's on this principle. It is rare to hear any complaints of this pessary, when it has been of right size, and properly introduced; for, although I have tried every kind of abdomino-uterine supporter, Hamilton's, Hull's, and several others, yet I find that patients give the preference to this simple, cheaper, and generally more efficient support. The perineal pad, the distinguishing feature of these more elaborate contrivances, is not without its disadvantages. I have one patient who never has the bowels relieved without removing the 'supporter,' and latterly, she has discontinued it altogether, because it produced great irritation and pressure about the vulva and rectum. The lady now wears a common circular boxwood pessary. Women, who can themselves remove and re-introduce this support, ought to be supplied with some of the same, and of lesser size, never using a pessary for a second time. If the assistance of a medical man is required, once in three, four, or six months will suffice, although, of course, exigencies may arise rendering more frequent attention necessary. Occasionally these instruments are worn for twelve or eighteen months without removal; and some months since I took one away which I had introduced four years previously. The patient had been in Van Dieman's Land during the interval, and had derived the greatest comfort from the support thus afforded. The uterus was so high up, and the vagina so healthy, that she has since gone through her daily duties without the pessary, and without any further descent. For married women this form is the best, as neither intercourse nor conception are prevented. Let it also be understood, that other remedial measures are not to be given up, as the time during which a pessary may be necessary, will much depend on the patient's persevering in the recumbent posture, and the use of astringent injections.

"But there are cases where, owing to the morbid capacity of the vagina, the *hollow ball pessary* must be used. This form also is best made of box-wood, with several holes for the escape of the discharges, and having affixed to one end a slip of tape, to facilitate its removal. Often this will be retained, when of proper size and well introduced, without any external mechanical contrivance; but where the dilatation of the parts is excessive, the plan of Sir Charles Clarke has succeeded well. But most surgeons are somewhat ingenious, and I frequently see inventions of greater or less utility, the half of which it would be impossible to enumerate." Pp. 561–565.

In the January number of our last volume we stated our opinion of OVARIOTOMY, and intend reverting to the subject next month; but we cannot help, in the mean time, quoting the views entertained by Dr Ashwell.

"*Prognosis and terminations.*—The progress and termination of encysted ovarian dropsy have become subjects of the deepest interest, owing to the efforts lately made to cure the disease by extirpation. Whether this be a desirable, or even a defensible operation, must mainly depend on the known course of the disease, when either left to itself, or treated with a view to palliation only. If it could be proved, in the majority of cases, that the malady did not shorten life, and induce severe suffering, few more operations would be undertaken. But the examples of this kind are, it is to be feared, only exceptional; and yet I cannot divest myself of the idea, if our records were accurately kept, that a more favourable view might be correctly taken of the palliative, or indeed of any treatment which did not involve the necessity for this hazardous extirpation. Certain it is, that many women have lived to old age, who were the subjects of the disease; and although a less number comparatively survive many years after tapping has become necessary, yet a collection even of these would go far to prove, that paracentesis is not by any means so fatal, in this respect, as has been supposed. Sabatier examined the bodies of several women who had carried these encysted tumours during half a century, without alarming derangement of health; and the memoirs of the French Academy of Surgeons prove, that it may last fifty-eight years: while Nauche, as a summary of his own views, says, 'dropsy of the ovary, then, is not a very alarming disease, unless it be very voluminous.' The cases of frequent tapping recorded by Martineau, Portal, among other surgeons, amply attest the protracted duration of life in association even with this stage of the affection. Nor, in a calculation of this kind, must it be forgotten, that numerous women have become pregnant, and have been many times safely delivered, notwithstanding a dropsy of one of the ovaries. Such cases have fallen under my own observation, and I could add others also where the malady, although of considerable size, has existed many years without tapping, and without indeed any other than mere palliative treatment.

"These considerations are entitled to great weight when determining the propriety of extirpation, uncalled for by present and great evils; or where the operation, from the enthusiastic views of its patrons, is urgently recommended as a preventive of mischiefs which they deem, but not always on good grounds, to be prospectively inevitable. To operate, where the patient strongly desires it, from a conviction that her sufferings, and the frequent repetition of paracentesis, will otherwise prove speedily fatal, may not involve any distressing responsibility, especially where the condition of the tumour leads to the supposition, that the case is pathologically a favourable one. But there are examples selected for operation far different from this. Take, for instance, a case which occurred to me a few months ago. A lady travelled to town from a considerable distance, anxious to have extirpation performed. On inquiry, I found she was sixty-two years of age, had never been tapped, although ovarian dropsy had existed for more than half her life. There was scarcely any suffering beyond weight and pressure, although the tumour was of immense size and partly solid. In such a case, it would have been highly culpable to have operated; and yet a surgeon, over-zealous about the removal of ovaries, had induced the firm belief that it ought to be done. I need scarcely add, that the patient, after being made acquainted with the great danger of the operation, was perfectly satisfied to remain as she was. Nor will the practitioner be less perplexed or distressed by such a case as the following, which occurred within my observation not long since:—A young woman, under twenty-two, had ovarian dropsy, her countenance bespeaking excellent health, and her history confirming the impression. Without interference many years might have been added to her existence; and as one of the fortunate accidents of life, it might have so happened, that the tumour should cease to grow. But unhappily she was convinced that extirpation was proper; the operation was most ably performed, and in a few days she died. These certainly are not the cases in which removal ought to be practised. If the operation is to become established, of which I have the strongest doubt, it must be confined to examples of the malady where tapping has already been so often performed as to preclude, from

the experience of similar cases, any idea that it can ever be dispensed with; and where, we are confident, that great suffering may lead to early death. Perhaps this may be regarded as too limited a view of the value of extirpation, but it is, I think, the correct one. In such cases, if the diagnosis excludes the belief that there are serious adhesions, or malignant or solid growths complicating the tumour, and if the patient strongly desires it, the operation is defensible. In all other examples it can only rest on the patient's own views of her future prospects, and on a calculation of chances. She might live many years, and without much suffering; but she may die in a few years after great suffering: she determines, therefore, being courageous, probably strongly urged by her surgeon, to run the risk of immediate death for the hope of immediate and radical cure. Whether she has done wisely to submit to such a hazard, a successful operation can scarcely prove; that she has happily secured her safety, through imminent peril, such an operation does prove. Lithotomy, operations for hernia, and for securing large arteries, rest on different grounds. That they are essential to the patient's life, is a full justification of their performance; for in all, even if not dangerous at the moment, it is certainly known that life will soon be destroyed, either by fever, gangrene, or loss of blood. Such, it has been proved, has not been the case in many of the fatal operations lately performed for extirpation of ovarian encysted tumours. It does not appear that statistics more favourable even than we have any right to expect, will materially change the aspect of the circumstances under which this operation is to be performed. It must, probably, from the impossibility of determining the real character and adhesions of the growth, ever remain an eminently uncertain operation. The extirpation, we are assured, by the operators themselves, in a fit case, is far from difficult—would that it were more so—for then it would not be so readily undertaken. If it required as much surgical knowledge and skill to make these large and brilliant abdominal incisions, as to tie the subclavian artery or to perform a trying operation of lithotomy, the lives of many women would have been already spared, and fewer would be sacrificed for the future. What would be thought of the feasibility of any other operation involving life in the most imminent hazard, if we discovered that out of 67 cases where it had been attempted, it was, *from absolute error of diagnosis, incapable of completion in eighteen;* that of the remaining 49 patients, where the extirpation was effected, *sixteen died* and *two were not cured;* so that out of the whole number 67, *the operation failed in thirty-six and succeeded in thirty-one,* less than one-half. Such results are distressing, especially when we hear no greater doubt expressed about the operation itself, but only higher confidence in its value, and greater laudation of the operators. We willingly concede presence of mind and ability to many of the extirpators of ovarian cysts; but we are unable to discover (for the later operations have been quite as unsuccessful from unfitness of the cases as the earlier ones) that any advance has been made in diagnosis. Nor, when the tumours themselves are examined after death, when the malignancy of many of them is recognized, and their firm, almost indivisible adhesions, and their immoveable masses of new and morbid substance are brought to view; it is next to impossible to entertain any sanguine hope, that our means of diagnosis can ever be much improved." Pp. 646-649.

The author concludes some sensible remarks on the evils of UNDUE LACTATION, by the following account of some of the morbid *complications* arising from this cause:—

"*Functional Amaurosis*, accompanied by congestion of the conjunctiva, is a frequent result of excessive lactation, and seldom fails, from its interference with the sight, to arouse the patient's fears lest vision should be entirely and permanently lost. These apprehensions may easily be allayed; as, doubtless in the greater number of cases, prompt weaning will alone remove the affection; still, it may be necessary, repeatedly to apply small blisters near the eye, and absolutely to forbid its employment. Improved diet, country and sea air, exercise out of doors, iron and quinine, are important remedial auxiliaries. Nor is it unimportant that quickly-returning pregnancy should, if possible, be

avoided. I have known several instances where, during a pregnancy immediately succeeding the exhaustion from over-nursing, the eye has been almost constantly in a state of "blood-shot" or congestion, and the sight excessively imperfect. Months, and even years, sometimes elapse, where able treatment has done its best before distinct and strong vision is re-acquired. Specks, and slight ulcerations of the cornea, are occasionally connected with the exhaustion and irritability of nursing. In all these cases, provided there be no serious organic change, the sufferer may be encouraged to expect the restoration of this most invaluable faculty.

"Several examples of *jactitation* have fallen under my notice. In one poor woman, an out-patient of Guy's Hospital, the seizures always occurred after she had nursed for three or four months; and they were so violent, that she was compelled to lay down her baby when they occurred, lest she should let it fall. In another young and hysterical patient, who had borne children very quickly, there was, during lactation, a continual and slight twitching, almost universal throughout the extremities, but especially of the face. In both, turning was necessary before the sixth month, more on account of leucorrhœa and general irritability, than for the jactitation.

"*Epilepsy* has been noticed by authors as the product of over-suckling, on the same ground as inanition; losses of blood, and deficiencies in its quantity and quality, are known pathologically to be productive of this malady; and I could adduce several instances where fits, difficult to be distinguished from decisive and unquestionable epilepsy, have occurred.

"*Insanity*, more or less permanent, may originate from over-lactation, commencing by peculiarity of sentiment or temper, and plainly evinced by pertinacious adherence to an opinion once formed, however erroneous; and scarcely at all more strikingly displayed than in a determined opposition to any advice having for its end an entire or even a partial weaning. In this early stage, the further advance or the protracted continuance of the malady might be prevented; but, instead of weaning, larger quantities of porter or wine, with animal food, are most improperly resorted to. Still the desired supply is not obtained. The stomach being weakened, is scarcely able to bear a diminished diet; fever and indigestion, apparent and temporary, not real strength, are the unavoidable consequence of this increased supply. Together with a continued sparing secretion of milk, the symptoms already described are aggravated. The insanity becomes positive and acute, the pulse quick and sharp, the skin parched, and the whole system deranged. The condition of the patient is no longer doubtful; her actions are often violent; and, without personal restraint, serious, perhaps fatal injury might be inflicted on herself and those around her. I agree, however, with Dr Locock, that the aberration of undue suckling is rarely of this serious kind, excepting where generous diet and wine are injudiciously administered; more commonly it shows itself in weakness and absurd ideas, in whim, and in caprice. In this stage, if weaning and careful treatment be adopted, the symptoms often subside easily and quickly; while in other cases, where probably a disposition to insanity exists hereditarily, the disease is of longer duration, requiring seclusion and confinement for its cure. If it be asked whether permanent insanity is ever the result of the aberration of undue suckling, I confess that I am unable satisfactorily to answer the question. In my own practice, such has never been its consequence; nor, so far as I know, have I discovered an example of the kind. The exhaustion of over-nursing induced the re-action and irritability on which the malady depends; and as this is gradually removed, by the formation of a larger quantity of better blood, the insanity passes away, and the individual slowly recovers her lost reason. It may perhaps be said, by those who regard this malady less seriously, that the insanity would have occurred independently of its intervention. The appended cases negative such an opinion. Additional confirmation is also furnished by the result of protracted lactation after another confinement. If, after such an event, more especially if the interval between the deliveries has been short, and the suckling be again protracted, a similar aberration will probably ensue, indicat-

ing the propriety of greatly curtailing the time of lactation, if not of entirely giving it up.

"It is not difficult to show many points of resemblance between this form of insanity and puerperal mania. The latter most commonly occurs in women of weakly, hysterical, and irritable habits; and, in the same class, over-lactation is most frequently witnessed. In the greater number of examples of puerperal insanity, a modified antiphlogistic treatment only, comprising small local bleedings, cordial aperients, particular sedatives, with animal nourishment and tonics, is most successful. The same may be said of the insanity from over-lactation. Puerperal aberration is rarely permanent, if insanity be not hereditary, and if improper treatment has been avoided. The same observations are true of the insanity of over-lactation. The former is disposed to recur in after-confinements; and the latter will show itself afresh, after successive and injudiciously-protracted nursings. There is, however, a marked difference in the frequency of the two diseases. The shock of parturition, the suddenness of the transition from pregnancy to the puerperal state, and the establishment of lactation itself,—all of which involve considerable changes in the circulation and in the nervous system,—sufficiently account for the prevalence of the one malady over the other.

"The *pathology* of these functional results of undue suckling is by no means intricate or doubtful. An impaired and attenuated condition of the blood, and a consequently depressed state of the nervous system, especially of the organic system of nerves, is the clue by which all the symptoms may be unravelled.

"I pass on now to notice what my experience leads me to believe to be a fact; viz., that very prolonged undue suckling may, *although rarely, induce organic change in the brain, lungs, and uterus.*" Pp. 725–728.

We strongly recommend Dr Ashwell's treatise to our readers as a valuable book of reference, on an extensive, complicated, and highly important class of diseases.

Principles of Human Physiology; with their chief applications to Pathology, Hygiène, and Forensic Medicine. By WILLIAM B. CARPENTER, M.D., F.R.S.E. Second Edition, pp. 745. 1844.

We are delighted to find ourselves so soon called upon to notice again this excellent work. The very rapid sale of a large impression abundantly proves that the medical community is fully impressed with its merits. Though the short space of two years has only elapsed since the appearance of the first edition, yet the contributions to this science have been so numerous and valuable, that the author has deemed it necessary to remodel it in several parts; and the chapter on Nutrition, including the history of the Chyle, Blood, and Tissues, has been almost wholly re-written. These different changes and additions have been made with that good sense and sound judgment for which the Author is justly distinguished. A considerable number of new wood-cuts, and a new plate have also been added to the present edition. This work as it now stands is the only Treatise on Physiology in the English language, which exhibits a clear, and connected, and comprehensive view of the present condition of that science.

Few individuals could have been found so well qualified as Dr Carpenter for acting as the historian of physiological science. He is endowed with great perseverance and industry, possesses a clear and logical judgment, is able to see distinctly the salient points of the more abstruse and disputed doctrines, has excellent powers of generalization, and can express his thoughts in lucid and correct language. In explaining the general doctrines of the science, or in describing the phenomena attending the performance of individual functions, he lays before the reader a judicious admixture of the most trust-worthy facts with the inductions to which they lead, which cannot fail to give him a clear concep-

tion of each subject brought under his notice. When he ventures upon any new generalizations, he never indulges in dogmatical and bold assertions, but proceeds in a cautious and philosophical spirit; this cannot fail to exercise a salutary influence upon the mind of the student by repressing that tendency to hypothetical speculation, to which young and ardent minds are so prone. He omits no opportunity of pointing out, how the physiological facts and doctrines he is discussing, may be employed, in furnishing more scientific methods of treating disease.

Though it cannot be supposed, that any one exercising the privilege of independent judgment, could, in a work containing so very numerous details and inferences, agree with the author on all points, yet after a careful perusal we have found little which we would like to see altered, and still less from which we feel inclined to dissent.

Since the appearance of this volume, two treatises have been published, bearing upon three of the subjects there discussed, of which the author would doubtless have availed himself had it been in his power. In one of these,—the electro-physiological researches of Matteucci, of which we have given a summary in this and in the last number of our Journal,—he would have found additional confirmation of the Hallerian doctrine of irritability; some strong facts in favour of the opinion expressed by him that the vis nervosa and electricity are *not* identical; and an account of some very curious electro-physiological phenomena, such as, that a quantity of electricity is developed during the contraction of a muscle. The other treatise to which we allude, is a memoir on the Structure of the Vegetable Cell by Mohl, translated in the last number of Taylor's Scientific Memoirs. Dr Carpenter adopts Schleiden's theory respecting the formation of vegetable cells. Mohl makes the following remarks on the theory of Schleiden: "On the whole, I am inclined to consider the foregoing observations as confirmatory of Schleiden's theory respecting the formation of cells; on two points, however, I cannot but differ from Schleiden's views. One refers to the connexion existing between the nucleus and the nascent cellular membrane. Schleiden says that the latter grows out from the nucleus in such a manner that it is applied upon it like a watch-glass, and the nucleus forms part of the developed cell itself; to me, on the contrary, the cell membrane always appears to surround the nucleus in the form of a closed vesicle, and in many cases to lie at some distance from it, even at their first organization, so that in this case the nucleus is by no means in immediate contact with the cell membrane." P. 97. We do not consider our knowledge of the formation of cells, and the transitions through which they pass in forming the various vegetable and animal tissues, so satisfactory as some physiologists seem disposed to do; and we agree entirely with Professor Sharpey, "that no branch of knowledge can be said to be complete; but there is, perhaps, none which can, at the present moment, be more emphatically pronounced to be in a state of progress, than that which relates to the origin and development of the textures, and much of the current opinion on this subject is uncertain, and must be received with caution."[1] Though we agree in most of the interesting deductions drawn by our author, (p. 580,) from the details which he has previously given of the formation of the different tissues, yet it appears to us, that in one or two instances he carries these farther than the facts fairly warrant. We concur with him in thinking that there are *absorbent* cells, *secreting* cells, and probably *assimilating* cells, or fibrin-elaborating cells, and we conceive that if these last really exist, he has adduced very plausible arguments to show that they are the colourless, and not the red globules of the blood. We cannot, however, go along with him in believing that "it may be stated as a general proposition, that the interstitial change, which the whole structure of the body is, in its normal or physiological condition, continually undergoing, is due to the regularly occurring death and reproduction of its component cells, of which every one has its own limit of duration." P. 583. We are acquainted with no observations which would lead

[1] Introductory Chapter to the new edition of Quain's Elements of Anatomy.

us to believe that when the muscular and nervous fibres have been once formed out of the primordeal cells, fresh cells are ever formed in these tissues, and that their nutrition is due to the regularly-recurring death and reproduction of their componeut cells. Some of the nuclei of the cells out of which the muscular tissue is formed, are found adhering to the ultimate muscular fibres; and it is quite possible, that it is by the agency of these, that the assimilating materials are separated from the blood in the nutrition of that tissue: but entire cells have not been observed. At p. 124 we perceive that our author has made a slight omission. In mentioning the experiments of Kronenberg,—by which it is proved that the apparent sensibility of the anterior roots of the spinal nerves is dependent upon branches of the posterior roots passing into the anterior roots at their point of junction, and then directing itself backwards towards the cord,—he ought to have mentioned, that these experiments of Kronenberg are confirmatory of others previously performed by Longet and Magendie. Kronenberg states that it was after having witnessed the experiments of Magendie that he performed his. Our author adopts the opinion of Scarpa, Arnold, Valentin, and Longet, that the par vagum and spinal accessory nerves are together analogous to a spinal nerve. P. 184. We are, however, inclined to believe, that the trunk of the par vagum at its origin does actually contain a few motor filaments,—and on the following grounds. Remak and Volkmann in dissections upon some of the domesticated mammalia, and Mr Spence in the human species, have ascertained, that a few of the filaments of the trunk of the vagus do not pass through its ganglion; and Dr J. Reid, Volkmann, Stilling, and Wagner, have observed muscular contractions in some of the organs in which this nerve is distributed, on irritating the trunk at its origin, and before it had been joined by the accessory. There can, however, be no doubt that the greater part of the motor filaments found in the trunk of this nerve in its course down the neck, come from the accessory, so that an accurate decision on the point at issue, is not of so much moment. We think that our author in his account of the process of chymification has shown a judicious distrust of some parts of the present fashionable doctrines on this subject. In speaking of the possibility of the conversion of the saccharine principles into oleaginous compounds, he says, "The possibility of such a conversion (which has been denied by some eminent chemists,) has recently been demonstrated by the careful repetition of the old experiments of Huber, who showed that bees, when fed upon honey alone, have the power of forming wax to an amount much greater than that which the honey contained. The *oleaginous* compounds forming part of the food are probably absorbed as such; and in common with these produced by the transformation just described, are either used for the maintenance of the respiratory process, or are deposited as fat. The question, whether they can ever by any addition of highly-azotised matter, be converted into protein compounds, and thus be applied to the nutrition of the azotised tissues, still, in the author's opinion, remains undecided; although there are not wanting those, who speak quite decidedly upon the impossibility of such transformation." P. 393. We would strongly advise those practitioners whose time will not permit them to keep pace with the recent additions to physiological pathology, to peruse carefully those parts of this work which treat of this subject. Some of them would find that the notions which prevailed in the schools, when they pursued their studies there, are becoming antiquated. They would, for example, discover that "notwithstanding all the attention which has been given to the state of the *vessels* in inflammation, a careful consideration of its phenomena, with the light which recent investigations have thrown upon these, leads us to attach comparatively little importance to this, and to seek elsewhere for the essential characters of the process." P. 536.

We again very earnestly recommend this work to our readers.

L' Officine, ou Repertoire Général de Pharmacie Pratique, &c. Par M. DORVAULT, *Pharmacien, Ex-Pharmacien des Hôpitaux.* 8vo, pp. 652. Paris, 1844.

The work of M. Dorvault has had, we understand, a very extensive circulation in France; and when we consider the immense amount of pharmaceutical matter which it contains, we are not surprised at this success. Though written specially for his own countrymen, we have no hesitation in saying that, as a book of reference, it will prove of great value to the pharmaceutical chemists and general practitioners of Great Britain, and indeed to all who are interested in the important arts of prescribing and dispensing medicines. The work makes no pretensions to be classed among the scientific works,—if we may so speak,—on the Materia Medica; but is exactly what its name would lead one to expect,—a compendious hand-book for the Medicine-Shop.

The book consists of Four Parts.

The First Part contains two very useful Tables of Prices, the one of retail, the other of wholesale charges. Both are alphabetically arranged. An extract from the first table will illustrate its advantages. Wishing to know the price at which Medicinal Biscuits are dispensed, we turned up the word

"*Biscuits*,"

and found the following:—

"*Biscuits.*—Pour préparer des biscuits sur prescription magistrale

Numéros, ...	5	10	25	50	100
Francs, ...	1	1·75	3	4·50	7·50

It would appear from this tariff, that five medicinal biscuits ought to be charged *one franc*, and one hundred of the same, *seven francs and a half*, in all the apothecaries' shops of France. It would be well, were our druggists to publish a similarly-constructed uniform rate of charges, by which they would consent to be regulated. It would in a great degree prevent two evils, which are occasionally brought under our notice, viz.—*overcharging*, and, what leads to much worse consequences—*underselling*, from excessive competition.

The Second Part, which is a Dispensatory compiled from the Pharmacopœias of France, Germany, England, Belgium, Spain, Holland, Italy, Poland, Portugal, Russia, Sardinia, Sweden, &c., contains numerous important formularies. As a specimen of this portion of the work, we select what is said of

Medicinal Biscuits,[1] (Biscuits médicinaux, massepains, macarons.)

"The preparations so named are not very numerous. They are obtained by adding (in powder or solution) some medicinal substance to biscuit paste; and baking it in an oven. Biscuit paste is made by beating up eggs with flour and sugar. The mass so prepared is divided into portions, put into buttered moulds of tin, or thin iron plate, similar to those used for chocolate, and then baked in an oven. It is usual to give the medicinal substance to a baker, who mixes it with his own biscuit paste; but when this is done, it is incumbent on us to be present during the mixing, so that we may be certain of its having been performed with exactness. The medicinal substance may also be introduced into fancy bread.

The advantage of this pharmaceutical form is to conceal both the smell and taste of a disagreeable medicine under the form of a sweetmeat. It is therefore

[1] Mr Baildon of Princes Street, Edinburgh, prepares medicinal cakes and biscuits, some of which are very useful in the treatment of children's diseases.

more generally employed for children. There should be but *few made at a time;* and they should be *kept dry.*

" Ollivier's Anti-Syphilitic Biscuits.

White of two eggs. Distilled water, 500.
Beat up the white of egg in the water, and add,
Corrosive sublimate, dissolved in sufficient quantity of water, 5.
Collect the precipitate; wash, and let it dry. (Lassaigne, Bouch.)
One centigramme of this *white animalised mercury* is introduced into each biscuit. (Foy.)
The writer's biscuits are of a square shape, weighing about 8 grammes each.

Purgative Biscuits of Jalap.

Jalap, 21·0 grammes.
Biscuit paste, No. 15.
Each biscuit contains 10 decigrammes of jalap.

Purgative Biscuits of Scammony.

Resin of Scammony, 10·0 grammes.
Biscuit paste, for 50 buiscuits.

Each biscuit contains two decigrammes of the resin. *One* biscuit may be given to a child seven years old. (Bouch.)

Vermifuge Biscuits of Worm-seed.

Powdered worm-seed, 4 grammes.
Essence of lemon, 15 drops.
Biscuit paste, for 24 biscuits.

Each biscuit should contain 15 centigrammes of worm-seed. One should be given to children, morning and night.

Storey's Vermifuge Biscuits.

Calomel, 1·3 grammes.
Ginger, 2·6 „
Jalap, 4·0 „
Sugar, 30·0 „
Cinnabar enough to colour the mass.
Add to it common syrup, and make ten biscuits. (Lond.)

Vermifuge Biscuits of Calomel.

Calomel, 8·0 grammes.
Biscuit paste, for 21 biscuits.

Each biscuit should contain three decigrammes of calomel, and should be administered according to the strength and constitution of the patient. (Foy.)"

(To be continued.)

Outlines of Chemistry; for the use of Students. By WILLIAM GREGORY, M.D., *Professor of Chemistry in the University of Edinburgh.* With numerous Engravings on wood. *Part I.—Inorganic Chemistry.* 12mo. Pp. 236. London, 1845.

Of late years there has been no want of excellent Elementary Treatises on Chemistry in the English language; but these works have, in their recent editions, grown to so unwieldy a size, as to render the publication of a smaller and more elementary work most desirable, both to the teacher and the student. It is with the view of supplying this want, that the admirable Outlines of Chemistry now before us have been produced. Although the form, as well as the objects, of the work are unpretending, Dr Gregory has succeeded

in presenting to the student a very excellent digest of the present state of chemical science, and has embodied in it much matter, which is more recent than even the newest of our larger text-books.

The first forty pages of the work are occupied by a very clear and concise account of the laws of combination, and the atomic theory. The latter of these subjects especially is neatly given; and contains a very lucid description of an *atom* as contra-distinguished from matter in the mass,—which we extract as a favourable specimen of the author's style.

"Now, while we admit that there is no limit to *our* conception of the divisibility of matter, this does not prove that there may not be a limit, in point of fact, to its actual divisibility. For, let us consider for a moment what division actually is, and we shall find, that it can only be defined as the separation of one portion of matter from another. Now, as matter, in its usual forms, undoubtedly consists of particles held together, more or less firmly, by cohesion, it is plain that we can easily, by overcoming cohesion, separate those particles from each other, and this is ordinary division.

"But, on the atomic hypothesis, each of these visible ordinary particles is, like the original mass, formed of still smaller particles cohering together, but in neither case in absolute contact. Indeed, the phenomena of expansion by heat, and contraction by cold, demonstrate that the particles of matter are not in absolute contact; in other words, an ordinary mass of matter may be defined as *a portion of space not entirely filled with matter.*

"Let us now define an atom as *a portion of space entirely filled by matter*, and we see at once that such a mass cannot possibly admit of division. It is strictly a unit, and a division implies separation of one unit from another: it is here evidently impossible. It is not meant that we can prove this to be the nature of atoms, for we cannot even prove their existence; but the object of the above illustration is to show that we can conceive the existence of an indivisible particle, and therefore, that the argument above described, in favour of the infinite divisibility of matter, is not necessarily conclusive."

The general section of the work concludes with a rather meagre sketch of Isomorphism and Isomerism, in the former of which sections Dr Gregory speaks of Isomorphism as being based on the "admirable researches of Gay-Lussac and Mitscherlich," in such a manner as might lead the uninitiated to suppose, that the merit of the discovery belonged equally to these two chemists,—whereas, all that Gay-Lussac did, consisted in observing that a crystal of potash alum, when introduced into a solution of soda alum, received a coating of the latter salt without change of form. It was in the hands of Mitscherlich, the most profoundly philosophical chemist whom Germany has ever produced, that that, and various similar phenomena, were reduced to the general law of Isomorphism, the discovery of which constituted one of the most important steps ever made in the philosophy of chemistry.

The section on Isomerism occupies only a single page; though it might, with great advantage, have contained a short account of the Isomeric, or, as Berzelius calls them, the Allotrophic conditions of the elements,—a subject which is daily gaining in interest and importance. Nor can we avoid noticing the total omission of the subject of Dimorphism. We should not have objected to these omissions, had there not been some sections of Dr Gregory's work which are extended out of all proportion to the whole. Such is, for instance, the section on arsenic,—the greater portion of which is occupied by an unnecessarily long account of the mode of detecting that poison recommended by Fresenius and Babo, of all others the most tedious and troublesome method yet proposed, and certainly inferior to Marsh's process, which, when performed with the proper precautions, gives results which are absolutely unequivocal.

In the section on the Elements and their compounds, Dr Gregory has brought down our information to the most recent times. He has introduced the newly discovered compounds of sulphur and oxygen, and of chlorine and oxygen. But even here there are some omissions. Thus, the equivalent of Glucinium is still called 26.54, and Glucina is styled a sesquioxide, although the researches of Awdejew, published a couple of years since, have shown that its atomic

weight is 4.65, and that Glucina is a protoxide: and no mention is made either of Ferric or Bismuthic acid. These, as well as other omissions, we trust Dr Gregory will supply in a second edition.

Dr Gregory's work differs from all foregoing chemical works, both British and foreign, by the total omission of the physical departments of Chemistry, namely, Heat, and Galvanism. This omission, the author seems to consider an important improvement, and points to it with evident satisfaction in his preface. We doubt the propriety of this change. We are ready to admit that much of what has been taught by *some* teachers of Chemistry falls strictly within the domain of physics; but there is a large number of subjects connected with heat and galvanism, which the lecturer on Natural Philosophy can, and does, enter upon very cursorily—with the statement, that they belong properly to chemistry. Such are the specific heat of atoms, (a most important chemical doctrine,) the theory of the galvanic battery, and the identity of galvanism and chemical affinity,—subjects, the very names of which do not occur in the work before us, although they constitute two of the most important doctrines of philosophical chemistry. Dr Gregory admits that the knowledge of these points is essential to the student of chemistry, but conceives that they should be elsewhere acquired. We fear, however, that there are very few of our students of medicine, —who will always constitute the majority of the professor's audience,—who do acquire this previous knowledge; and until means are taken to compel them to do so, it would certainly be preferable to continue the old system of introducing a short sketch of heat and galvanism, in which those portions of the subjects which relate especially to chemistry, might be pretty fully discussed.

In the plan which Dr Gregory has taken, he follows the Giessen school, a school in which the philosophy of chemistry has never flourished. The illustrious head of that school has never distinguished himself in that branch of chemistry; and the small repute in which it is held at Giessen, may be judged of by the fact, that although that University possesses Professor Kopp, one of the most distinguished cultivators of the philosophy of chemistry, his lectures are never attended by above two or three out of the seventy who resort to Giessen for the sole purpose of studying chemistry.

We have freely pointed out what, in our opinion, are faults and omissions in Dr Gregory's work, knowing well, that with reference to the justice of some of our remarks, there may exist difference of sentiment; and in conclusion, it now only remains for us to state, that taking Dr Gregory's work all in all, it is beyond comparison the best text-book of Chemistry which can be placed in the hands of a student of that science.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

Contributions to the Diagnosis and Pathology of Empyema. By Dr MacDonnell of Dublin.

[Our readers may recollect that, in the number of our Journal for May 1844, we gave almost at full length a very able and important paper on the *Diagnosis of Empyema*, by Dr Robert MacDonnell of Dublin. We shall now lay before them further observations on this subject by the same accomplished author. In the paper alluded to, Dr MacDonnell gave, amongst other matters, the particulars of three cases of empyema attended with purulent expectoration, and many of the other symptoms of phthisis; but which he was led to consider as instances of empyema undergoing cure, by the establishment of a vicarious secretion of pus from the bronchial lining membrane. In addition to the cases which came more immediately under the author's care, he adduced others already published by Dr Greene, and which he had also witnessed. From the experience afforded by all these examples of empyema attended with purulent expectoration, he was enabled to deduce the following rule of diagnosis :—" *That purulent expectoration in empyema, though attended by quick pulse, sweating, emaciation, and other hectic symptoms, is not indicative of tubercular or pneumonic abscess, unless accompanied by unequivocal physical signs of these lesions; but, on the contrary, it is to be regarded as the consequence of an effort of the constitution to get rid of a large collection of matter by one of the ordinary emunctories.*"]

The case detailed in Dr MacDonnell's second paper, presented almost all the symptoms of phthisis, and many of those of gangrene of the lung, yet the diagnosis of empyema, with vicarious purulent secretion from the bronchial tubes, was pronounced, from the reliance the author placed in the above rule.

In addition to purulent expectoration, the patient also presented the phenomena of fetid breath and fetid sputa, and the explanation the author gives of these symptoms, is as follows :—" The presence of this extreme fetor of the expectoration might possibly lead to the opinion that gangrene of the lung complicated some of these cases. In two of them the *post mortem* appearances negatived such an opinion, and in that under consideration there was no symptom whatever of gangrene, except fetor of the expectoration, and occasionally of the breath after coughing, to which may be added the blackish-looking matter spat on one occasion, whilst the countenance of the patient never exhibited the features so peculiar to pulmonary gangrene; and the fetor, though at all times highly oppressive, did not come on with the rapidity noticed in gangrene of the lungs, nor was it preceded or followed by the copious hemoptysis so constantly the precursor or accompaniment of gangrene of the lungs; and still more important,—there were not, at any time, the physical signs of a gangrenous cavity or diffuse sloughing of the lung. This character of the expectoration, and its occasionally bad quality, have been so frequently observed in cases of empyema

cured by the vicarious elimination of the pus from the bronchial tubes, that we are naturally led to inquire into the cause of the phenomenon. To me it appears explicable by the fact, that in such cases we have a quantity of pus and air occupying the minute tubes and air-cells, *and having but an imperfect communication with the external atmosphere, owing to the larger tubes being nearly obliterated by the compression to which the lung is subjected by the fluid of the empyema*, and in this way they act chemically on each other, and produce a decomposition, giving rise to the intolerable odour, which both the pus and expired air soon acquire. In fact, the same phenomena are observed in these cases as in ordinary abscess, the matter of which may be healthy and odourless on its being opened; but soon becomes altered in these respects, when air enters the sac and acts upon its contents, which then become bad in quality, and offensive in odour. This view is borne out by what was noticed in M'Cullagh's case, viz., that the breath was not fetid during ordinary expiration, but became so immediately after coughing, by which the air *pent up in the remote tubes was expelled*, whilst that taken in, during ordinary inspiration, was exhaled devoid of odour."

There was also observed in this case, another remarkable physical sign, which we do not recollect to have seen noticed by any other writer on pleurisy, viz., a distinct *bruit de soufflet* in the descending aorta.

"Another very interesting feature in this case was the occurrence of the *loud bruit de soufflet extending from the last rib upwards along the left side of the spine for about five inches.* This is, as far as I am aware, the first time that a bruit de soufflet has been heard in the thoracic aorta in pleuritic effusion; and it will require further observation to ascertain, if it be of frequent occurrence in this disease. We cannot say how long it lasted, for it was only detected accidentally, and disappeared as soon as the fluid began to diminish, as evinced by decrease in the extent of dulness. It was not heard on the *right* side, and this is exactly what we should expect from the anatomical relations of the aorta in this situation, as it lies to the left of the spine, and in close apposition with the left pleura, whilst it has no connexion with the right pleura in any part of its course, being separated from it by many important organs; hence, we can readily comprehend, how the sound generated on the left side of the spine (either by the *pressure* of the fluid against the aorta, or by extension of the inflammation from the pleura to its coats), though quite loud and distinct in this situation, was completely inaudible at the right side of the spinal column. But even supposing the amount of pressure exercised on the artery inadequate to produce the conditions necessary for the formation of a bruit de soufflet, we can well conceive that the vessel may have been affected with the same *increased activity* of pulsation, so constantly observed in arteries situated in the neighbourhood of inflamed parts (as is so often seen in the throbbing of the radial artery in whitlow, and of the abdominal aorta in enteritis), and thus become the seat of a bruit de soufflet. In the case of M'Cullagh, the sound was probably produced by a combination of these causes. From the course the ascending aorta takes, it is evident, that it is only in effusions into the left side of the chest, we can expect to find any abnormal signs resulting from pressure on this vessel; and from what I have observed in some cases of effusion into the left side, since M'Cullagh came under my observation, I am disposed to think that it is *only when the effusion is circumscribed and confined by adhesions*, that we shall meet with bruit in the thoracic aorta, for I have not since heard it, though I have met with six or seven examples of effusion into this side of the chest, but they were capable of changing their situation by the alteration of the patient's position. Dr Stokes has shown that in some cases of phthisis, a bruit de soufflet is heard in the subclavian artery; and Dr Graves has published some examples of pneumonia, with violent throbbing of the chest, and loud bellows murmur; in cancer of the lung, bruit de soufflet and pulsation have been noticed; and in the case just detailed, we have an instance of a loud soufflet in the descending aorta in empyema, thus completing the circle of pulmonary diseases attended by signs referrible to the circulating system.[1]

[1] Since the above was written, I have perused the details of a case in M. Grisolle's

Dr MacDonnell next alludes to the *Occurrence of Crepitus in the Lung after the Absorption of Pleuritic Effusion*, from which we shall extract a few remarks.

" In the first case I observed it, the pleuritic effusion was attended with extensive bronchial respiration, which, as is usual, gradually diminished as the effusion was absorbed; when, just as it was concluded that the whole quantity of the fluid was removed, a distinct, loud, and sharp crepitus was heard, nearly all over the portion of lung, previously the seat of bronchial respiration. The crepitus gradually became less evident, and finally disappeared, leaving the lung free, and the respiratory murmur pure and loud. I had afterwards other opportunities of examining this sign; but in no instance were the peculiar characters of it better marked, than in the case of a young woman of a full plethoric habit, admitted into the Meath Hospital under the care of Dr Lees. On examination, she was found to labour under effusion into the right pleura, extending up as high as the spine of the scapula, and, in addition, she complained of the usual symptoms of this affection. She was treated energetically, and in about a fortnight all trace of the disease had disappeared, except a slight amount of dulness, and, during inspiration, *a sharp and distinct crepitus*, conveying the idea of its being generated immediately on the surface of the lung. It extended over almost every part previously occupied by the dulness, and was not accompanied by any other râle or bronchial respiration. There was no dyspnœa, cough, rusty-coloured expectoration, or pyrexia; yet from the slight dulness which remained after the absorption of the fluid, and the sharp crepitus, it was almost impossible to distinguish the signs from those of pneumonia. In a few days, however, this crepitus gave way to a pure and distinct respiratory sound; and the patient gradually improved, and was soon discharged, perfectly free from the least trace of pectoral affection.

The next case is that of a small boy, aged eleven, who had laboured under pleurisy of the right side, with effusion, which had undergone absorption, leaving the side quite clear on percussion. On placing the stethoscope on the chest,

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elaborate work on Pneumonia, which appears to throw some light on the subject. In the case quoted by him, the apex of the right lung being pushed against the commencement of the descending aorta by an effusion into the left pleura, and an extensive one into the pericardium, produced such compression on the vessel, as gave rise to the formation of a coagulum in its interior, in all probability attended with a soufflet. The particulars of the case I shall give in his own words:—

" Il semble également résulter d'une observation très curieuse, publieé par M. Dalmas, et communiquée à l'Académie Royale de Médecine, que le compression exercée par un poumon enflammé sur l'aorte, peut favoriser la formation d'un caillot dans la portion correspondente de ce vaisseau. Voici le fait rapporté par M. Dalmas (L'Expérience, t. i.) Une vieille femme de l'hospice de la Salpêtrière mourût avec un commencement de gangrène sénile. A l'autopsi on trouva une obliteration avec épaissement et friabilité des artères du membre malade, en outre, à la partie supérieure de la portion descendante de l'aorte, au niveau du point oú s'insère le canal artèriel, on trouva un caillot long de six centimêtres remplissant tout le calibre du vaisseau et y adhérant assez fortment, ces adhérences interrompues en dehors et en arrière, point ou il existait un passage libre pour le sang, n'offraient aucune trace d'organization. Le péricarde était rempli d'une quantité considérable de sérosité albumineuse, la plèure gauche était aussi le siège d'une énorme épanchement. Le lobe supérieure de ce poumon, infiltré de pus, avais acquis une densité extrême—et un volume au moins égal a celui des deux poings. Il remplissait tout le sommet de la poitrine, déja si pleine, et devait nécessairement comprimer tout ce qui l'avoisinait. Or, l'aorte, après son passage de droit à gauche pour descendre le long des vertèbres dorsales—devait trouver dans la résistance et la densité du tissu pulmonaire un grand obstacle, à sa dilatation et cela d'autant que le poumon était refoulé en haut par le double épanchement qui existait. La circulation devait donc y être tres difficile; de la, la formation d'un caillot. Il n'y avait aucun vestige d'artérite. Je pense avec M. Dalmas que la formation du caillot dépendait d'une cause tout à fait mécanique—il faut pourtant tenir compte aussi de la plasticité et de l'état inflammatoire du sang que rendait ce fluide plus facilement concrescible. Si la malade eût vecu, il est probable que le caillot eût produit une obliteration ou un rétrécissement considérable de l'aorte thoracique.

a dry crepitus was extremely audible; it was only heard on forced inspiration, and was not audible either during expiration, or ordinary inspiration, and was unaccompanied by any other kind of râle. The boy had not, during any part of his illness, exhibited a sign or symptom of pneumonia, and his expectoration had never displayed the least trace of the pneumonic character. When listened to attentively, the sound gave the idea of being formed by the rushing of air into cells partially compressed, and the seat of slight infiltration of thin fluid, and of proceeding from the surface of the lung, as if generated in the superficial cells,—an opinion confirmed by the fact of its being produced only on his taking a deep inspiration. I examined this boy daily for the next five days, and though at each time the sound had diminished greatly in intensity, it still preserved its dry crackling quality, exactly like the dry crepitus of pneumonia.

"Another instance is that of a strong, healthy woman, about thirty years of age, who was admitted into the Meath Hospital, under the care of Dr Stokes, with extensive effusion into the left pleura. Previous to her admission she had been attended at her own residence, by my friend, Professor Geoghegan, and the treatment he commenced was continued while in hospital. The dulness extended up to the spine of the scapula, and was accompanied by bronchial respiration and œgophony, but no crepitus or bronchitic râle could be heard, nor had she any of the characteristic symptoms of pneumonia. The bronchial respiration was soon replaced by a respiratory murmur, at first feeble, but it soon became louder and more distinct, and now, a well marked, *dry*, *crepitating râle* was audible during ordinary inspiration, but becoming more evident on taking in a deep breath:—it was unaccompanied by dulness, bronchitic râles, friction, or any other abnormal sound, and she had no cough, expectoration, difficulty of breathing, or pyrexia. It continued to present the above characters for the next four or five days, and then gradually disappeared.

"In the case of a gentleman whom I have lately been attending, the same sign was observed. He had laboured under pleurisy, with effusion into the right side of the chest, for nearly a month before I saw him. The whole posterior and lateral portions of this side were perfectly dull, as high up as the spine of the scapula, and to the axilla, and all over this portion the respiratory murmur was scarcely audible, but there was no trace of bronchial respiration. He had cough, (without any expectoration,) of a hacking, teasing character, and his pulse was 120, full, and strong; besides these signs, he presented the usual group of symptoms noticed in such cases. A fortnight after, the dulness had greatly diminished, and the respiratory murmur could be heard throughout the entire of the lung, attended with a *sharp dry crepitus* at the end of inspiration, presenting quite the character noticed in the preceding cases. It was in this instance the more likely to lead to error, from its being attended with dulness, the result of the pleurisy; but at the same time, the patient's state indicated no new invasion of disease. His breathing was easy, his cough gone, his countenance placid, and his pulse, which for several days, remained at 120 and 100, had fallen down to 80,—a combination of favourable symptoms irreconcilable with the notion of a new inflammation being set up.

"In the foregoing cases, I have only given so much of the details as have borne upon the point, to which I wish to draw attention, and I have purposely omitted a minute history of the diseases, or of the treatment employed for their removal, for in neither of these particulars was there anything sufficiently remarkable to be worthy of record. Since my attention was first attracted to this point, I have found it (crepitus?) follow pleuritic effusion so frequently, that it is surprising it should have escaped the notice of the many acute observers who have laboured in this field; and I can account for the fact, only, by supposing that they have looked upon it only as indicative of pneumonia, and have probably been led to pursue modes of treatment calculated to interfere seriously with the convalescence of their patients. It may be asked, what condition of the lung does it indicate, or how is it produced? At one time I considered that it was produced by the rushing of air into the cells that had been completely or partially compressed by the fluid, but on making patients with healthy lungs

empty these organs to the greatest degree, and then inspire deeply, so as to fill the superficial cells, I could hear nothing more than the rustling sound occasioned by the air entering into innumerable cells, but in no instance could I hear the crepitating râle, already alluded to. With the same view, I examined most carefully a patient of Dr Stokes's, on whom the operation of paracentesis was performed, for chronic hydrothorax of the left cavity of the chest, producing great displacement of the heart, and dilatation of the side. When the fluid began to flow, we could hear the gradual expansion of the lung, indicated by a rustling murmur, which ceased as soon as the finger was placed on the opening, and was again resumed the moment the fluid began to flow out. Now, in this instance, we had an excellent opportunity of examining the phenomena attending the expansion of air-cells previously compressed, (for in the lower portion of the chest, the respiratory murmur was null); and yet, neither during their expansion, nor after their return to the normal state, could the least approach to crepitus be heard. We cannot, therefore, I think, refer this phenomenon solely to the entrance of air into the compressed cells, for we should then expect to find it occurring in every instance, where an effusion, giving rise to bronchial respiration, becomes so diminished, as to allow of the cells being dilated, and a healthy respiratory murmur to take the place of the bronchial breathing—but such is not the case. But if, in addition to the compression of the cells, we have them infiltrated with serum, the result of congestion produced by the impediment offered to the free circulation of the blood, through the compressed lung, as no doubt is the case in some instances, (for we know that compression of the vessels of the lung from pleuritic effusion, may take place to such an extent, as actually to produce gangrene of the organ, and consequently may, in a less severe degree, produce congestion and œdema of its surface), we have a condition of parts that may account for the sign. If the cells were *fully expanded* and filled with serum, as in the ordinary form of œdema of the lung, the râle would present the loose subcrepitant character, but being *partially compressed* and infiltrated, the râle produced by the entrance of air acquires the sharp and fine tone heard in pneumonia. As, however, I have had no opportunity of confirming this opinion by anatomical examination, I merely offer it as the best I have been able to form, and shall leave the reader to adopt any other he may think capable of affording a more satisfactory explanation of the fact.

"When this sign is accompanied with the dulness that so frequently remains after a pleuritic effusion has been quite absorbed, it is, of course, more likely to lead to the opinion, that the patient is labouring under pneumonia, than when it presents itself alone, particularly if there be still some pain in the side, and quickness of pulse; but in all the cases in which I have observed it, the symptoms of pleurisy had nearly or completely disappeared, and the easy and comfortable condition of the patient, the quiet pulse, cool skin, absence of cough and characteristic sputa—all were opposed to the supposition of inflammation being present. But it is not to be wondered at, should mistakes of the kind be frequently made, for writers of the highest repute have spoken so oracularly upon the value of a fine dry crepitus as pathognomic of pneumonia, that it may appear almost a heresy to dispute the value of this sign, or assert its occasional occurrence in other conditions of the lungs.

"Thus we find an eminent lecturer state, that 'if the ear be applied to the surface of the chest, with or without the intervention of the stethoscope, and the portion of the lung subjacent to that surface happen to be in the first stage of inflammation, that of engorgement, what does the lung *say?* what audible notice does it give of its morbid condition?—Why it speaks very plainly. You hear a peculiar crackling sound; the smallest and finest possible kind of crepitation—which has been happily illustrated by saying that it resembles the multitudinous little crackling explosions made by salt, when it is scattered over red hot coals. Andral has another resemblance for it, and not a bad one; he says, 'The noise is often like that which is produced by rumpling a very fine piece of parchment.' Dr Williams observes that a pretty correct idea of this sound may be obtained in a ready way, by rubbing between the fingers and thumb a

lock of one's own hair, close to the ear. Laennec calls this *crepitant ronchus;* I would speak of it as *minute crepitation;* or the *crackling of pneumonia.* This may be heard in a very limited spot in the beginning. And what an important sound it is! It is a direct symptom, having immediate reference to the structure of the part. "And," (says Dr Latham) "if we consider what the part is, and what the disease,—the part the lungs, and the disease inflammation,—we cannot too highly value this single symptom, (simple and mean as it may seem), which gives the earliest and surest intimation that such a disease has begun, as tends to disorganization, and the inevitable loss of life, unless quickly arrested by its counteracting remedy."'—*Watson's Lectures on the Practice of Physic,* vol. ii. p. 75.

"In the above extract we find two distinguished physicians declare that the existence of a crepitation *alone* is sufficient for the diagnosis of pneumonia; and were it not that this view is extensively entertained, I should not have put together the remarks contained in the foregoing pages. Most assuredly crepitation is an invaluable sign, *taken with other symptoms;* but, if taken alone, uncombined with dulness, pain, difficulty of breathing, cough, rusty-coloured expectoration, flushed countenance, anxiety, quick pulse, and other febrile symptoms, it is not,—as I think the foregoing observations satisfactorily prove,—sufficient for the diagnosis of pneumonia.—*Dublin Journal of Medical Science,* January 1845, pp. 434–459.

Curious Case of Malformation of the Heart, in which there existed only one Auricle and one Ventricle.

There are several examples of this species of malformation on record. Yet well-authenticated cases of the kind, with full details, are not so numerous as to deprive the following of interest. Nature, moreover, is often so capricious in regard to these anomalies, that there is usually some peculiarity attached to each individual instance.

The following case presents several peculiarities which, at a future period, may be found of use in throwing light on some of those obscure points of pathology connected with anomalies of the heart.

Julie Rieder was born at Strasbourg; both her parents were healthy. Her mother had previously given birth to a well-formed male child, who is still in the enjoyment of good health. Her second pregnancy presented nothing remarkable, and terminated at the usual period. Julie Rieder appeared well formed, and continued for six weeks to enjoy good health, exhibiting no peculiarity. On a sudden, however, her respiration became difficult, and, at the same time, her skin assumed a tolerably well marked blue colour.

When six months old she was attacked with convulsions, which were followed by hemiplegia of the right side. The paralysis gradually disappeared, till at length there was nearly a complete cure. At the age of five the movements were almost completely restored, and after division, by M. Scouttetten, of the tendo Achillis for club-foot, the patient was able to walk with ease. I ought to state, however, that the movements of the right side were never so free as those of the left.

The cyanosis continued during the whole of her life; the blue tint assuming a more marked appearance after any severe or rapid exercise. I ought also to state, as somewhat remarkable, that the blue tint was deeper on the right side, affected with paralysis, than on the left. This phenomenon was constant, and did not escape the observation of the parents. The dyspnœa was almost continual.

A double bruit de souffle was heard over the precordial region on auscultation.

Notwithstanding of these symptoms Julie continued to grow, and was even somewhat fat. Her intelligence was of the ordinary standard.

In the month of November last, after exposure to cold, she was seized with bronchitis. The respiration immediately became laborious; and symptoms of pulmonary congestion set in with so much rapidity and intensity,

as soon to put a period to her life. She was then aged six years and twelve days.

It was with some difficulty I obtained a dissection: and I was only permitted to examine the chest.

I observed no other apparent malformation.

Autopsy.—The heart lay in its natural situation between the two lungs; there was nothing remarkable about the pericardium; it contained nearly a spoonful of clear serum.

External Surface of the Heart.—The vertical diameter of the heart was 4 inches, its horizontal diameter 2½ inches.

On examining the anterior surface of the organ *in situ*, we remarked,

1*st*, Inferiorly, the anterior surface of the ventricles.

2*dly*, Somewhat superiorly, the anterior surface of the auricles on the same plane; on turning down this auricular portion the anterior surface of the ventricles was again brought into view.

3*dly*, At the uppermost part of this anterior surface we observed the origin of the aorta and pulmonary arteries, which were somewhat hidden at their origin by the auricular portion of the heart, and the veins passing into it. From this disposition of parts, then, it will be seen, that this auricular portion was not inserted at the base, but upon the anterior surface of the ventricles.

Posterior Surface.—We examined the posterior surface after having removed the organ from the body, and remarked,

1*st*, On the first plane, a large triangular surface, with its summit directed downwards, and its base upwards, and lying obliquely from right to left. This surface belonged entirely to the ventricular portion of the heart.

2*dly*, At the base of this triangle, and at the junction of the two right thirds, with the left third, was seen the origin of the arterial vessels, lying opposite to each other in their normal relations.

3*dly*, On a deeper plane, we observed the posterior surface of the auricular portion of the heart.

Internal Surface.—The internal surface of the ventricles was examined, by means of two incisions carried through the right and left edges of the heart.

The thickness of the parietes of both ventricles was about equal; it might amount to about a line and a-half. We found the three species of columnæ carneæ which exist in the natural state.

There was a large communication between the two ventricles. No vestige of a partition existed except at the inferior part. The height of this incomplete partition was at most four lines, so that the thumb could be easily passed through the opening, the circumference of which was smooth, round, and completely destitute of valves.

The aortic orifice presented nothing abnormal; the sigmoid valves were well formed. This orifice was situated at the superior and internal part of the left ventricle.

The orifice of the pulmonary artery was found at the superior and interior part of the right ventricle, so that it was only separated from the aortic orifice by a small caruncle, which constituted, in fact, the superior portion of the circumference of the inter-ventricular opening. Both the pulmonary artery, and its orifice, were in their normal condition. But I ought to remark that its calibre was half the size of that of the aorta.

Auriculo-Ventricular Orifice.—There was only one auriculo-ventricular orifice, consequently it was common to both auricles and ventricles; it was situated at the base of the ventricular cavity, and behind the aorta and pulmonary artery; its disposition was such, that had the small portion of the ventricular partition been sufficiently prolonged upwards, it would have divided it into two nearly equal parts. On looking through this orifice, the size of which was nearly equal to that of the anormal inter-ventricular opening, the cavities of the auricles were distinctly visible. The latter appeared separated by a thin partition, which did not extend to the orifice. Thus, then, we have seen, 1*st*, A free communication between the ventricles, and each of the auricles;

2*dly*, A free communication between the two auricles. This latter communication taking place below the incomplete inter-auricular partition.

The auriculo-ventricular orifice was provided with a large triangular valve, inserted by its base into the three anterior fourths of that orifice, and having its summit fixed, by means of some small columnæ carneæ, to the posterior ventricular parietes. Some columnæ carneæ proceeding from both ventricles were also inserted into the lateral edges of this valve, which was sufficiently large to close the orifice completely.

Auricular Cavities.—The right auricle was opened by means of an incision made in the right edge of that cavity, and carried in such a direction as successively to divide the vena cava inferior, the wall of the auricle, and the vena cava superior. The foramen ovale remained open. The inter-auricular wall exhibited a large opening quite destitute of valves, and through which the little finger could easily be passed. If the description we have already given be now called to remembrance, it is evident that the blood could pass freely from the left auricle into the right by two openings: 1*st*, The foramen ovale; 2*dly*, By an opening situated below the inter-auricular partition.

The left auricle presented no other peculiarity than what we have already noticed.

In conclusion, this heart exhibited,

1*st*, An anomaly in the disposition of the auricles in relation to the ventricles.

2*dly*, A very large opening, by means of which the ventricles communicated with each other.

3*dly*, Two openings, by means of which the auricles communicated with each other.

4*thly*, The existence of a single auriculo-ventricular orifice.

From this disposition of parts, then, it follows, that although in this heart there were the vestiges of the four cavities, yet the organ may be denominated a single one, that is to say, composed of one auricle and one ventricle, a disposition resembling that found in the hearts of the batrachiens. The existence of a single auriculo-ventricular orifice leaves no doubt in regard to this.

I would further remark, that this fact tends to corroborate the opinion of M. Isidore Geoffroy St Hilaire. It is well known that this author has stated, that in cases of this kind (vices of conformation of the heart, in which there exists only one auricle and one ventricle) there exists, properly speaking, a large communication between the auricles and ventricles, and that, with the exception of the partition, no other part is wanting.

It is hardly necessary to remark, that in this girl there was a mixture of the two species of blood, first in the auricles, and then again in the ventricles. The cyanosis, and disordered respiration, are therefore naturally explained. Life continued longer in this case than in any analogous one with which I am acquainted. In fact, if we throw aside two cases published in the *Ephémérides des Curieux de la Nature*, by Antoine de Possis and Lanzoin, under the title *De rara cordis palpitatione*, the authenticity of which may be called in question, since that of Lanzoin is nothing else than nearly a literal reproduction of Possis' case, published fifteen years previously; putting these two cases aside, then, death occurred in ten months and a-half in Mauran's case, in six months in Ramsbotham's, in four months and twelve days in Thore's, in one month and a half in Breschet's, and in nine days in that by Valleix.

I have also noticed a somewhat singular phenomenon observed during life. The cyanosis was always more marked in the right side, affected with paralysis, than on the left. The phenomenon may be accounted for, I conceive, by the slowness of the capillary circulation in that side of the body. If this explanation be correct, it is another proof that in individuals in whom the organization of the heart permits the mixture of the arterial with the venous blood, the cyanosis is rather a result of stagnation of the venous blood, than a mixture of the two fluids.—*Gazette Médicale*, 8th February 1845.

Case of Acute Spinal Myelitis, accompanied with Amaurosis. By M. Pescetto, Physician to the Hospital at Genoa.

A man, aged forty-two, of robust habit, a convict in the galleys at Genoa for the last four years and a half, in which he worked as a spinner of ropes, had during all that period enjoyed good health. He was often exposed, when in a state of perspiration, to currents of moist, cold air. In consequence of this exposure, he began to feel flying pains through the whole body, especially in the back, with a sensation of weight in the occiput, and slight amblyopia towards dusk. He endured these premonitory symptoms without complaint, and with extraordinary resolution. In a few days the pains became intolerable, the amblyopia was converted into complete amaurosis, and, on the 14th March, he was admitted into the Infirmary. On examination, he was found in the following state:—Features contracted, and expressive of great suffering; complete amaurotic blindness; dull, heavy pains, at the base of the cranium, nape of the neck, and between the shoulders; no sleep for several days, general uneasiness and restlessness; respiration difficult, torpidity of arms; decubitus on the back painful; pulse febrile, but variable and feeble, anorexia, constipation. Rachialgitis, with cerebral congestion, was diagnosed.—*Large bleeding from the foot, and a purgative.* 2d day. Sleeplessness continues; neck stiff, its motions accompanied with the most intense pain; convulsive twitches, occasionally, in the arms and trunk; the patient complains of a feeling of combustion in the head, and suffocation about the chest; the amaurosis continues in the same degree; the restlessness and cardiac anxiety are greater; pulse more regular, but hard and contracted.—*Bleeding from the arm morning and evening.* 3d day. The blood of the former evening exhibits a tough, thick, buffy coat, with little serum; all the symptoms continue with some aggravation; the restlessness and anxiety have become converted into a kind of terror, accompanied with inexpressible oppression at the precordial region.—*Fourth bleeding, twenty-four leeches along the spine, tartar-emetic drinks.* 4th day. Blood of previous evening still buffy, but contains more serum; the pains in the back and neck, which had, till now, been lancinating and heavy, have been somewhat mitigated since the last bleeding, and a copious perspiration, which followed it in the course of the night; decubitus on the back less painful, but the cardiac anxiety is still alarming; the sleeplessness and amaurosis still continue; the tartar emetic potion was suspended, the system not tolerating it; it was replaced by a simple tisane.—*A fifth and sixth bleeding were prescribed.* 5th day. Better; the pains have diminished in severity, as well as the spasmodic contractions of the neck, back, and arms; the patient has been refreshed by a little sleep; vision commences to improve; less oppression, and pulse fuller; the movements of the neck and trunk are performed with greater ease; perspiration continues. The patient, however, complains of pain at the epigastrium; and the tongue is covered with a thick fur. A seventh and eighth bleeding were prescribed, with four ounces of olive oil. On the seventh and eighth day vision was nearly restored; progressive melioration in all respects; cure on the twelfth day; then relapse, during convalescence, from exposure to cold; the patient was at last completely cured, on the eighteenth day.

The most remarkable circumstance in this case, was the existence of amaurosis as a concomitant symptom with myelitis. In this point of view, it must be classed among the rare cases. The author seems thoroughly to have comprehended the necessity of not treating the amaurotic affection directly, but of turning his whole attention to the affection of the spine. The result has proved, that M. Pescetto was justified in the bold and large bleedings to which he had recourse. He does not remark having observed any influence of the disease on the genital organs. We are inclined to ask why, in this affection of the spine and membranes, there was no manifestation of trismus, or tetanus, properly so called. It is probable, that in these affections, there are differences in the seat of inflammation, with which we are yet unacquainted.—*Gior. della Soc. Med.-Chir. di Torino*, as quoted in *Annales de Thérapeutiques*, January 1845.

ON CHOREA AND ITS CONNECTION WITH MITRAL VALVULAR DISEASE; AND ON ITS TREATMENT BY INDIAN HEMP. BY PROFESSOR TAYLOR, of University College, London.

CASE 1. Frances Barker, aged twenty, of sanguine temperament, a servant of all work for four years, was admitted 12th December 1844. The malady was brought on by fright. On admission, there was constant writhing and contortion of the limbs, more especially of the upper extremities; the left seemed to be more affected than the right. There was much less power in the left hand than in the right. She complained of headach; the expression of countenance was rather anxious; the lips and cheeks were pale. She could control the motions in the limbs to a certain extent; they nearly ceased during sleep. Speech and deglutition were unaffected; no murmur was heard with the sounds of the heart; pulse 96; no increased heat of surface. The menses appeared at the age of fifteen, and have always been regular. It is noticed, that during Dr Taylor's visit, when she is surrounded by students, the motions of the limbs are far more violent and constant than when she is alone with the other patients. The tincture of Indian hemp was prescribed in doses of gr.x three times a-day; after two doses, the movements diminished, and soon ceased. She commenced the medicine on the 13th, and was discharged on the 17th. The remedy produced some giddiness and drowsiness. "In considering," says Dr Taylor, "the amount of benefit due to this remedy, we must remember that the disease was of very short duration, and therefore more easily curable; the age of the patient might perhaps render it more likely that the disease should yield sooner than at an earlier period of life. Again, another circumstance to be taken into account was, that menstruation occurred after her admission into the hospital, and we know how much this function influences nervous diseases. However, so far as *one* case can go, it certainly must be taken as evidence in favour of the remedy employed."

CASE 2. ——— Hannah, aged seven, admitted December 10, 1844. She is rather tall of her age, of slight conformation, ruddy complexion, has been at school four years, and has continued there until about a week since; has always had good and sufficient food, and been well-clad. She is naturally of a very cheerful disposition. Has lived in London all her life, in a dry healthy situation. Parents both living; father aged thirty-seven, enjoys very good health; mother aged thirty-five, generally in good health, is occasionally rather hysterical; her brothers and sisters are quite healthy; she has always been very healthy previously to the present attack. Has never, to her mother's knowledge, received any shock or fright. *Present attack.*—About three weeks ago, her mother first noticed a peculiar twitching of her fingers, and awkward motions of her arms and shoulders, but she did not think much of it until December 7, when the movements of her limbs became much more conspicuous, and she could not speak plainly; she also at this time complained of headach, the pain extending across the forehead. The motions of her limbs continued to increase in frequency and force until the 10th, when she was admitted. Previous to admission she had taken no medicine. *Present state.*—There is a continual awkward and uneasy motion of all the limbs; these movements, however, are somewhat under her control; she can quiet them for a short time when told to do so. They continue, but not to any great extent, when she is asleep. She cannot hold anything in her hands; and although she has more power in the left side than in the right, it is diminished on both sides. Articulation is sometimes interrupted; complains of headach across the forehead; pupils rather large; tongue furred; appetite good. There is a loud, prolonged, distinct bellows murmur heard at the apex of the heart with the systole; it is heard at the base, but more feebly.— *To have full diet.— Cap. syr. ferr. iod.* ℈ij *t. d.*

Dec. 13. Continues much the same. She only began to take the medicine the day before yesterday.

14*th.* Urine turbid, deposits a considerable sediment on standing, has an acid

re-action, sp. gr. 1041; it becomes clear on the addition of heat and nitric acid; it contains a considerable excess of urea.

16*th*. Appears much the same. Bowels regular.—*Omittatur ferri iodureti.—Cap. tinct. can. Ind.* ℿ *v. ter in die.*

17*th*. The improvement to-day is very marked; the motions are considerably lessened; she was much quieter, and slept better last night.

18*th*. Appears to be rather better than yesterday; has had more rest, and is much quieter in the night; after taking the medicine, she complained of headach, but not of giddiness.

20*th*. Much the same as before; the medicine does not affect her head now; pupils full-sized. The urine contains no albumen; its sp. gr. is 1027; there is a slight excess of urea. It appears, from some mistake, that she has been taking gtt.xxv. of tinct. cannab. Indic., instead of gtt. v. for each dose.—*Auge ad gutt. xx.*

23*d*. Much the same. She had no medicine yesterday.

25*th*. Discharged, relieved. Her mother would let her remain no longer.

"It was evident," says Dr T., "that the patient had disease of the mitral valve, which was no doubt structural, because a mitral murmur is never produced by anæmia. She never had rheumatism; but she might have had the eruptive fevers, which also (especially scarlet fever), produce endocarditis and pericarditis. Some persons believe that there is a connection between mitral valvular disease and chorea. The Indian hemp, it is to be observed, produced no giddiness nor drowsiness in this case. During the first day or two after taking the tincture she was better; afterwards, the disease appeared to become stationary.—Abridged from a *Clinical Lecture*, in the *Medical Argus*, No. I. January 22, 1845.

Ascites Treated by Paracentesis and the Tincture of Cantharides. By W. Möller, Candidate of Medicine at Nykjöbing, in Zealand.

A sub-tenant's wife came to me in the month of April, to ask advice concerning a considerable swelling of the lower part of the belly. She had formerly been under the care of another physician, and explained to me that she had got some white powders from him, after taking which a violent secretion of saliva began; and this salivation still continued. The patient was 35 years old, asthmatic, and of a lymphatic constitution. In her youth she had enjoyed good health, and menstruated regularly till her 33d year, when she gave birth to a well-formed child that died. From that time the catamenia did not appear; she grew continually weaker, and her feet became affected with œdema, which extended higher and higher up the limbs. The lower part of the belly afterwards began to increase in size, and to be distended. Her condition was now very pitiable. She had an intolerable dry cough, was much troubled with asthma, and had somewhat violent pains in the breast, produced by the pressure of the fluid in the abdomen upon the diaphragm. She lost her appetite, got no sleep, was constipated, and discharged very little urine. The pulse was weak and quick. On examination, the under part of the belly was found to be distended by a considerable collection of fluid; no swelling was detected in the liver, or other abdominal organs. Various medicines were administered without effect.

I resolved, therefore, on the 6th of May, to undertake *paracentesis*, more in order to ease the patient, than with any expectation that a cure would be thereby effected. The operation was successfully performed, without any difficulty. I punctured two and a half inches under the navel, in the course of the *linea alba*. About one pail and a quarter of water was discharged; the wound quickly healed, and the patient felt much relieved. After the lapse of some time I administered tincture of cantharides in increasing doses, after which the patient made water in more regular quantity than before. The little gathering of water remaining after the operation has been wholly got rid of, and the patient now declares that she has never been more nimble. The appetite and sleep returned immediately; and so much was the constitution daily strengthened, that during the whole of the summer, she wrought in the fields. Instead of a pale

wan visage, she has now a rosy-cheeked appearance.—From the Annual Medical Notices sent in to the Royal College of Health, as quoted in *Bibliothek for Laeger*, No. 1, of 1844.

Case of Hemorrhage of an Unusual Kind, causing Death. By James M. Adams, Esq., Surgeon, Glasgow.

June 22, 1844. Jean Colquhoun, aged 55, a collier's wife, of temperate habits and spare body,—this morning when she awoke, complained of a pain in her left side, under the inferior angle of the scapula. The next day a small tumour appeared over the seat of pain, and increased in size until the following day, when my brother, Dr A. Adams, was requested to visit her. He found a flattened oblong tumour, about five inches in its long diameter, and situated as before mentioned. It was elevated about an inch above the surrounding integument, distinctly circumscribed, slightly elastic, and obscurely fluctuating. There being little or no constitutional disturbance present, my brother did not consider it necessary to enter upon a very minute examination of the case, and simply ordered the application of poultices containing a solution of the muriate of ammonia, with the view of discussing what he considered to be a cold abscess. The swelling subsided during the day, coetaneously with which there came on a spitting of blood. I visited her on the following day (the 24th) and found her sitting up by the fireside. She complained only of feebleness and chilliness. She had a slight cough; but her breathing was not accelerated. Her pulse was 90, small, and feeble. The hemoptysis still continued. There was an evident fulness of the part pointed out to me, as having been the site of the tumour, but it was neither prominent nor circumscribed, nor was there any discoloration of the skin. The tumefaction, as it may be called, felt hard, did not crepitate or fluctuate, and a careful examination with the stethoscope elicited nothing positive. I prescribed repeated doses of the tincture of the muriate of iron, after the second or third of which the hemoptysis ceased. I likewise directed the use of wine and warm clothing. On the following day, and the fifth from the first notice of the affection, the tumour suddenly re-appeared, and quickly extended, elevating the skin from the margin of the inferior rib up to the middle of the neck, and from the spine posteriorly to within two inches of the sternum anteriorly. She sank rapidly, and died in the course of the day.

June 28. *Inspectio Cadaveris.*—This day, assisted by my friend Dr Menzies, I examined the body. It was emaciated to an extreme degree. The *heart* was pale and flabby; its vessels were filled with pale serum, and a thin layer of serous fluid lay beneath its investing membrane. The ventricles were firmly contracted; the right auricle was filled with fibrinous clots; one of the tricuspid valves was ossified at its base, as was also one of the semilunar valves of the aorta. The aorta and the other great vessels of the heart were healthy. The right lung was closely attached to the costal pleura by firm old adhesions. The substance of the lung was loaded with frothy serum. The substance of the left lung was healthy; but several parts of its circumference were emphysematous. A firm band, about an inch in thickness, attached the lung to the costal pleura. That part of the pleura which corresponded to the first appearance of the tumour was of a livid ecchymosed colour, caused by extravasated blood lying beneath and external to it. The liver was enlarged, but was otherwise healthy. A biliary calculus of the size of a walnut was found in the gall-bladder. The mesenteric glands were unusually large. The spleen was of enormous size, and occupied the whole left side of the abdomen. It measured fifteen inches in length and eighteen in circumference; and we estimated its weight at nearly fourteen pounds avoirdupois. It was of a dark brown colour and firm fleshy texture. Its external surface was mottled with patches of yellow, which extended half-an-inch into its substance, and at one part there was found a serous cyst of the size of a nutmeg. The other abdominal viscera were healthy.

The integuments on the left side of the body were now dissected carefully off, when the tumefaction was found to consist of an extensive layer of thick

grumous blood, very dark in colour, and of a tenacious consistence, the quantity of which we estimated at nearly four pounds avoirdupois. It lay beneath the greater pectoral and the latissimus dorsi muscles, and these, together with the intercostal muscles, were thoroughly infiltrated, and in some parts disorganized, and their insertions detached by the extravasated blood. The axillary vessels were carefully traced and examined, and a minute search made, but no ruptured vessels could be found.

The muscles of the body were singularly pale and exsanguine. The relatives stated that the tumefaction appeared much less after, than a short while before death.—Abridged from the *Northern Journal of Medicine* for March 1845.

Case of a Healthy (?) Woman subject to Prolonged Sleep, returning at Intervals.

C. S., 35 years of age, has been married six years, during which time she has had four children, of whom three (not suckled by her) are still living. Since her marriage she has been subject to trances, of from two to seven, and usually of five days and a half duration. They return at regular intervals; occur suddenly without any warning, sometimes coming on during the night, and sometimes during the day. She is half roused every twenty-four hours; her mouth is then parched, and her tongue hangs from between her lips; some liquids are then presented to her, which she swallows insensibly, and immediately afterwards again falls asleep. The intervals which separate these trances are generally from two to twenty days; during which time she has no sleep; or if any, it is short and disturbed. Neither season nor temperature have any influence upon her state. Menstruation, pregnancy, accouchement, the flow of the lochia, &c. &c., are not hindered by this sleep. It is any thing but refreshing, for she is very much fatigued on awakening. She neither has stools, nor makes water during her sleep; and does not feel the want of this on first wakening.

C. S. wakes from the trance spontaneously: nothing can rouse her from her sleep. If her eyelids be lifted, her eye is found to be fixed upwards: light does not cause her pupils to contract; the respiration, circulation, and temperature of the body are in their original state during, and after these trances.—*Gazette Médicale de Paris*, January 4, 1845.

Malformation of the Genitals, in which a Child, Two Months old, christened, and considered as a Female, proved to be a Boy. By Henry Terry, Esq., F.R.C.S. Eng., Surgeon to the General Infirmary of Northampton.

Lois Brown, of Mears Ashby, Northamptonshire, aged two months, was brought to me on the 9th of March 1843, on account of a malformation in the organs of generation. The mother and grandmother, who came with the child, said that the external opening was closed, that the water came the wrong way, and that *she* was born so. On my first examination, it appeared to be a common case of imperforate vagina. There was, however, a little fulness, and a slight degree of prominence at the lower part of the supposed closed orifice, and this was the only peculiar circumstance which I observed. On proceeding to separate the adhesion, which required no cutting, and very little force, my utmost surprise was excited by the appearances which were presented to view. There was something which looked like a penis. I separated the parts more extensively, and more minutely examined those which had been concealed; a glans penis and prepuce were now discernible, and the penis was complete, though a good deal confined and bound down to the neighbouring parts. The vagina was searched for, but in vain. The scrotum, with one testicle down, and the other descending, was gradually developed, and the little patient was presented as an entirely male child! There was a slight indentation at the orifice of the urethra, but the canal was impervious, and the urine passed through a little opening behind the corona glandis, just at the insertion of the frœnum preputii. There was a large quantity of loose cellular substance covered by integument in the

neighbourhood of the parts, so that even after the separation of all the adhesion, the slightest lateral pressure with the fingers gave again the appearance of a closed vagina, covering and entirely hiding the penis and scrotum as before.

I am at a loss to give any satisfactory explanation of the appearances which I have attempted to describe. It only appeared to me that from an exuberant quantity of surrounding soft parts, together with a retracted and rather confined condition of the penis, the two sides of the former had met, and formed an adhesion, but this had evidently happened before the birth of the child, as no doubt had ever been entertained as to the supposed fact of its being a little girl.

I visited the child on the next day, and found him quite well; but the mother was in tears and great trouble, as she said she should be ridiculed by all the village for not knowing a boy from a girl. I endeavoured to satisfy her on this subject by assuring her, that her ignorance on this point was not greater than my own. The urethra is still impervious. I have made many attempts to introduce even the finest probe, but have not got it in further than a quarter of an inch. The urine passes through the false passage without inconvenience. The penis is still rather confined, and the same state of the surrounding parts remains; by very slight lateral pressure, the almost perfect appearance of the female organs is again produced.

During the present tender age of the child, it would doubtless be wrong to do anything more to the urethra; but it will be important to decide whether anything can afterwards be done. I believe that the urethra is not carried through the glans, but terminates in the false opening behind that body, constituting the disease called hypospadias; and I fear that such a case admits of no remedy.—*Prov. Med. Journal*, Oct. 30, 1844.

Remarkable Case of Extroversion of the Bladder, under the care of M. Blandin, at the Hôtel Dieu of Paris.

A young person, aged 21, small in stature, but strong, and enjoying good health, has had, since birth, in the hypogastric region, a red fungous-looking tumour of the size of a turkey's egg, from which there is a constant escape of fluid by means of two small apertures situated at its inferior part. It is bounded superiorly by the umbilicus, which is naturally somewhat low; and inferiorly, it is placed between the two bones of the pubis, which are separated to the extent of 10 centimetres. This tumour evidently consists of the posterior wall of the urinary bladder, extroverted or pushed from behind forwards: the two apertures are the ureters. The anterior wall of the bladder, and corresponding abdominal parietes are, as in similar cases, wanting. Surrounding the tumour there is a flat ribbon-like cicatrix; and on its surface there are a number of small granulations extremely sensible to the touch. The separation of the bones of the pubis is very distinct; but, notwithstanding, the pelvis possesses a sufficient degree of stability to enable the patient to walk freely, and for a considerable distance. Another remarkable circumstance is the situation of the anus, which is found very far forward, and occupying the situation of the vulva. From being kept constantly moist with urine, it is of a red colour, and surrounded with vegetations of great sensibility. The skin covering the hips, thighs, and groins, is thickened, wrinkled, and painful to the slightest touch. In the centre of the pubic separation, and at the lateral and inferior part of the tumour, there is a rudimentary vulva, composed of two large labia, covered with hairs, several carunculæ of painful and exquisite sensibility, and a bifid clitoris, one half of which is towards the right, the other towards the left side of the tumour. In the same interpubic space, and somewhat above the level of the symphysis, are two small openings, leading to two oblique canals, or small vaginæ, from which the catamenial fluid escapes. There is thus, then, a double vagina, and it is probable there are also two uteri, of which there are some cases on record. The urine does not escape drop by drop, or continuously, but it is ejaculated from time to time, and these ejaculations appear to coincide

with the lowering of the diaphragm, a fact which leads to the presumption that the fluid is retained for an instant in the inferior part of the ureters before it is expelled. M. Blandin has satisfied himself, by experiments on living animals, that the urine is thus retained in the bladder in the normal state. M. B. proposes to have an apparatus constructed for this woman, which, applied to the pubis, shall embrace the tumour, preserve it from friction, and at the same time receive the urine.

There are several cases of congenital extroversion of the uterus on record. But there are several circumstances which render the one above detailed peculiarly interesting. The separation of the pubes, a consequence probably of arrested development, the division of the clitoris, the position of the anus and vagina, the bifurcation of the latter, and the good state of health of the patient, are all peculiarities worthy of remark. We naturally ask why the superior portion of the tumour, not in contact with the urine, does not receive a cuticular covering, corresponding to that found in the inverted vagina? If this change could be induced, it would prove most advantageous, relieving the patient from the exquisite pain produced on the slightest touch. It may also be inquired, if the art of surgery can do nothing in a case of this kind? In reply, M. B. conceives that any attempt at auto-plastic operation would be extremely hazardous in this case.—*Annales de Thérapeutique*, August 2, 1844.

SURGERY.

Case of Infibulation of the Vagina, for Vesico-Vaginal Fistula. Read by M. Bérard to the French Academy of Medicine.

M. Bérard exhibited a preparation he had removed from a woman, in whom he had, six weeks previously, induced obliteration of the vagina, on account of an enormous vesico-vaginal fistula, which had destroyed the whole anterior wall of the bladder, its neck, a portion of the urethra, and caused retroversion and hernia of the remaining portion. The operation as to union or infibulation had succeeded perfectly, and gave the greatest hopes of success; cicatrization was nearly completed, and the urine flowed limpid and clear through the catheter left in the canal. No serious morbid phenomenon followed the operation; and for three weeks things remained in such a state, as to lead to the hope of complete success; but at the end of this period, symptoms of peritonitis suddenly appeared, under which the patient sank in the course of seventeen days.

On dissection, traces of intense, partial, and disseminated peritonitis were found. Both pleuræ were also the seat of inflammation. All the other organs were perfectly healthy.

The vulva was almost entirely obliterated. There only existed two small openings, superiorly and inferiorly; the inferior communicated with the vagina, the superior with the bladder. Two probes passed through one and other of these apertures, met in the centre of the fistula. The portion of the vulva in which adhesion had taken place, was of the extent of nine lines in length, and three lines in thickness, and was made up of its anterior partition.

Thus, said M. Bérard, the operation had *almost* succeeded; and there would have been no difficulty in obtaining the obliteration of the two small apertures which alone remained. The death of this woman *cannot be attributed to the operation*, and the facts now detailed should rather encourage us to new trials, than lead us to abandon this mode of procedure.

[Instead of laying before our readers the discussion which followed the reading of this case to the Academy, we prefer giving the following summary of it, and accompanying remarks of the *Gazette Médicale*, in the truth and justice of which we entirely concur.]

The unanimity with which MM. P. Dubois, Blandin, and Gerdy, successively protested against the conclusion of M. Bérard, "that this fact should rather en-

courage surgeons to follow this mode of procedure than to abandon it," is sufficient to lead all true friends of science to hesitate about the future adoption of this absurd invention. M. Bérard, whose good faith and skill no one can doubt, in relating the details of the case, stated, 1*st*, That the cure in this patient was almost complete; 2*d*, That her death could not be attributed to the operation. Upon the legitimacy of these conclusions the interest of the whole debate hinged; and it is the arguments brought forward by the different speakers in relation to these points, that we intend to follow. 1*st*, One fact was sufficiently established by the frank avowal of M. Bérard himself, viz. that the obliteration of the vulva, when death occurred, was not complete, and that consequently urine could still escape by it. Here, then, was an example not of cure, but merely of melioration. But it may be said, that the portion of vagina not yet closed was so small, that there could have been no difficulty in afterwards procuring its adhesion. This may be quite true; but in cases of cure of vesico-vaginal fistulæ, there are good reasons why we should be somewhat cautious when we come to appreciate the results. Cases of partial success abound; but well established cures have yet to be found. This remark is perhaps somewhat severe; but it does not belong to us. We borrow it from the inventor of the operation, M. Vidal (de Cassis) himself, who, in giving an opinion in his work, upon a modification proposed by M. Gerdy, condemns it in these terms; "*this operation will have the common fate of all those proposed for such an end; partial success, but no complete result.*"

Is it to be inferred from this, that we consider obliteration of the vagina impossible? By no means; our opinion in this respect is exactly that of M. Blandin, who declared it *almost impossible*. We do not wish to go farther than him, but assuredly, also, we do not wish to fall short of him. But, cries the inventor,—with that ingenious subtlety which is peculiar to him,—why should the contact of urine so much alarm you? Do we not every day see this influence, which you so much fear, in operation after lithotomy, and yet the incisions then made heal in a very short time? We are far from denying this; but we can quote to him (and he knows them as well as we do) cases of solution of continuity of the urinary apparatus, such as urethral fistulæ in man, which, notwithstanding the most methodic paring and irritating of the edges, often defy all the efforts of the surgeon. But is there, moreover, such an exact identity between the wound in the operation of lithotomy, and in that for obliteration of the vagina, as M. Vidal would have us believe? We by no means think so. After the operation of lithotomy, the whole efforts of nature are directed towards restoring the solution of continuity in the walls of the bladder. After suture of the vulva, on the contrary, art is endeavouring to close, what was meant to be open: it is, therefore, contrary to nature; and far from expecting her aid, as in the former case, we have rather to fear her intervention, as it is sure to be in a direction opposite to the end proposed. This is just, in fact, what may be observed in all the cases hitherto published; and if union, in the case of M. Bérard, was anything but complete, and if in that by M. Vidal, it was so feeble at the end of a month, as to yield easily to the simple pressure of a catheter, there is nothing here but what might *à priori* be expected, and, at the same time, there is little to encourage us to hope for the future success of this method. 2*d*, The patient sank in the course of twenty-three days:—did she die from the effects of the operation or not? Yes, say MM. P. Dubois and Blandin. No, says M. Bérard. We most readily acknowledge all the confidence that should, in general, be placed in the testimony of him who has had the case under his eye; and, on this occasion, we would most willingly have concurred in the opinion of M. Bérard. But the following reflection naturally occurs to the mind: here is a woman who lived with an infirmity; you submit her to an operation; in the course of a month, more or less, she dies—and she dies from peritonitis; the relation of cause and effect irresistibly forces itself upon the mind. Is spontaneous peritonitis an affection of such frequent occurrence, that we are entitled to deny the reality of a traumatic cause, which would naturally explain it, in order to refer it to some species of hidden influence? Assuredly not. Except in the case of stercoraceous or other effusion,—

penetrating wounds of the abdomen—strangulated intestine—or in the puerperal state,—peritonitis is rare; so that, seeing it occur in this case, in the absence of all the usual causes, we are more entitled to regard it as the result of the operation, than of idiopathic origin.

In support of the harmlessness of such attempts, M. Bérard referred to the operations performed by him in 1835, for the cure of prolapsus uteri. But the two cases we conceive to be perfectly dissimilar. In *élytroraphie*, a portion only of the mucous membrane of the vagina was removed, and the re-adhesion immediately effected. In that case, then, there was only contraction of the vagina: in infibulation there is complete closure. In the one case there was free exit for the fluids; in the other, the urine is retained in this new cavity, unaccustomed to its permanent contact. These differences of conditions are quite sufficient to account for the different results obtained.

Without dwelling longer, therefore, on the nature of the causes to which the fatal result may be attributed, and which, notwithstanding the assurances of M. Bérard, will not be regarded by the majority of surgeons, as entirely unconnected with the death,—we hasten to say that this operation having succeeded, neither as a means of cure, nor as a surgical operation, we do not hesitate, (along with M. P. Dubois,) to class it in the number of *irrational* attempts, and that this case, regarding it in the mean time by itself, far from encouraging repetitions of this process, is rather to be held up as a salutary warning to patients who wish to submit to it, and to surgeons who think of performing it.

In his reply in favour of the operation, M. Bérard brought prominently forward an argument on which we must say a few words. "Suppose," said he, "that infibulation really was the cause of death, does it then follow that it ought to be rejected? No, danger is the accompaniment of all operations; and it would be most unphilosophical to abandon them on the ground that they are sometimes followed by mishaps." This remark is just, but its value, in reality, is small. In order that a surgeon be authorised to run some risk, there ought to be some probability of success. This condition is indispensable, and it is still more so, when, instead of remedying a mortal disease, the question is only to relieve an infirmity. Now the proofs of the curative effects of infibulation have yet to be furnished. We are, therefore, entitled to say, that before proceeding to it, a surgeon should consider well; for if, previous to the operation of M. Bérard, this method had fallen into oblivion as insufficient, it ought now to be altogether proscribed as dangerous; and by every surgeon watchful of the safety of his patients,—this last attempt having placed it in a still more unfavourable light,—it ought to be entirely banished from the art.—*Gazette Médicale*, 22d February 1845.

Case of Abscess of the Tongue. By W. Möller, Candidate of Medicine, in Nykjöbing, in Zealand.

N. N., locksmith, of Nykjöbing, consulted me on the 4th of May, about a swelling under the chin. He complained of considerable pain in the root of the tongue, and of a swelling in it, which hindered deglutition. On examination I found a considerable tumour in the tongue, which almost filled the mouth;—it was dark red, and I could feel fluctuation, by stretching my finger far in over the tongue. There was no time to lose. I wrapped a bistoury in linen, so as to leave only the point bare, and made a longitudinal incision with it. A considerable quantity of thin pus was discharged, and the patient was immediately relieved. I made him wash his mouth with a decoction of yellow roots, (*guleröddder*) in milk. Within eight days, the sore was healed. The swelling under the chin came to a height, opened, and was likewise quickly healed by emollient cataplasms. The man was 60 years of age, and of a consumptive constitution, and three of his children had died of phthisis. I mention this, because I have seen the opinion advanced by several authors, that it is especially those subject to consumption who suffer from abscesses in the tongue. These abscesses are certainly very unfrequent, as the fleshy part of the tongue is not suitable for their formation.—*Bibliotheh for Læger*, No. 1, of 1844.

Case of Gangrene of the Penis and Urinary Fistula, caused by an External Injury, terminating fatally 20 days thereafter. By O. Muller, Superintending Physician at Elsinore.

(Read before the Royal Medical Society of Copenhagen, on the 29th February, 1844.)

J. A., a Prussian sailor, aged 30, strong and phlegmatic, was brought to the Oresund and Elsinore Infirmary, on the 22d April 1843, at 9 o'clock A.M., where, on his admission, he made the following statement:—

Eight days before, on his voyage hither, he suffered a severe contusion in the pubic region, in consequence of his falling with a hand-spike in his hands, which struck him over the root of the penis. He immediately fell down senseless, but soon came to himself again. There ensued pains over the bone, which extended up to the navel, and down to the penis. The under part of the belly swelled, likewise the penis, which also became discoloured. There followed thirst and a bitter taste; his sleep was disturbed,—especially by pain in the lower part of the belly; his appetite was not particularly diminished; in the morning he had had a stool, with which was mingled some blood. The statements regarding the discharge of urine were not quite satisfactory. On examination, the skin on the erected and much swollen penis was found blackened and hard; in some places (as on the glans) ulcerated, where it was also painful to the touch. In the pubic region, surrounding the root of the penis, the skin was discoloured and hard. On the lower part of the belly a tumour was observed, stretching from the symphysis pubis to the navel,—which latter was much distended, and had the form of a bladder. There was no pain on pressure, in the seat of the original injury. The under part of the belly was scarcely pained by a heavier pressure. The pulse was somewhat low (75) the tongue a little yellow; he was rather thirsty, and had had no sleep during the last night.

By a catheter introduced into the bladder, without particular difficulty, there were discharged nearly 2 pots (about 4 imperial pints) of urine, much coloured with blood. After this, the swelling and pains in the under part of the belly became considerably diminished, and in an hour the patient fell asleep. Twenty leeches were applied to the region of the bladder, and around the pubes.—*Fotus resolvens tepidus abdomini, et circa penem.*

April 23. The patient slept some during the night. On taking away a part of the blackened skin and cellular tissue, a deep suppurating sore was seen on the under side of the penis, in front of the scrotum, and in this a hard body was observed, which, on nearer inspection, was found to be a ring of some kind of metal. It lay round the penis, and at its root. After having carefully introduced a suitable instrument, under the ring, to wit between it and the upper side of the root of the penis, a vain attempt was made to take it off. A watchmaker's saw was however successfully used in cutting it through, and as the ring was not whole, but formed by overlapping ends, both halves were thus easily separated. The bore of the ring was scarcely 1 inch, the breadth 1¼ to 2 lines, and the thickness about the same. At the place where the ends began to overlap each other, of which part was turned down, a wedge-like hook was found, which went scarcely half through the ring, supposed to have been produced in an attempt which the patient had made to cut through the ring. The urethra was found perforated at the bulb, by an opening of the size of a pea, through which flowed the urine, mixed with pus and blood. About half a pot (1 imperial pint) of urine was discharged by the catheter. The patient was exhausted, and had a small, quick pulse.—R. *ammoniæ carbon. gr. v. opii puri, gr. j, sacchari alb. gr. xv. Fiat pulvis, tal. 4 horis sumenda.*

April 24. Sleepless night; continued fever; pulse 96; more swelled; the under part of the belly is much distended; no urine was discharged by the sore, but it was drawn off with an elastic catheter, which was introduced with ease, and with scarcely any pain on passing the prostate. Two pots (four imperial pints) of urine were discharged, the last portion of which was mixed with blood and pus; the first was scarcely at all so mingled; was otherwise clear and without any extraordinary smell. The pain in the penis was inconsiderable; the surface of the glans was moderately free from suppuration. Upon the middle part

of the penis the skin was hard, and as black as coal; it, and the under-lying structures, down to the aponeurotic sheath, were taken away.

April 26. Increased fever; tongue parched, lead-coloured, and cracked; and great thirst. The urine is discharged by the catheter morning and evening.—*Mistura acidæ mineralis.—A table-spoonful to be taken every hour.*

April 27. The most of the remaining blackened skin and cellular membrane have been taken away; the pain in the penis is slight; the urine has been withdrawn thrice by the catheter.

April 28. The whole of the surface of the penis is pretty free from suppuration. During the night he was sleepless. There has been some urine discharged by the sore; the pulse is 120, and low; the scrotum is excoriated by the running out of the urine, which has daily become more mixed with pus and blood.—*Dressing with ceratum simpl. and catapl. emoll.*

April 29. Strong thirst; painful diarrhœa, with emission of green excrements; pulse 130, low.—*To be allowed a little wine.*

April 30. *Evening.* No diarrhœa, but a tendency to vomiting and hiccough. He complains of pressure on the precordium (hjertekule); he complains of pain in the anus, and extreme debility; the pulse is 140, small, and irregular.—R. *acidi muriatici diluti* ℥iss, *aquæ fontanæ* ℥vj, *syrupi diacodii* ℥vj.—℥ss *every hour.*

May 1. Some nausea after having taken the first powder. Diarrhœa thrice,—and with one stool came off a lumbricus; no sleep from the continuance of hiccough; the pulse is low, irregular, and ranges between 130 and 140; the upper surface of the penis is drier, but yet covered with good granulations.

May 2. The night has been spent in the greatest restlessness and pain, with continuous groans and hiccough, till he vomited a dark green stinking liquid; the face is drawn together; strength much exhausted; the extremities cold; meteorismus. The granulations on the penis have assumed a blueish colour; the pulse is 150, and very irregular; he is yet sensible. By an elastic catheter was withdrawn one-half-pot of thick red stinking urine, mixed with pus and greyish filaments. At ¼ to two o'clock P.M. he died. The patient carried the secret with him to the grave, as to how the ring had come on his penis. He could not be prevailed on to give any information about it.

Autopsy, 24 hours after death.—The urethra was found injured for 4½ inches from its mouth, above ⅔ of its calibre was wanting in the extent of 1 inch, where the upper paries only remained. At the opening of the intestines a large quantity of urine mixed with putrid matter flowed out. The whole of the fundus and body of the bladder were found adhering very closely to the surrounding parts, so that it was not possible to cut them separate. It was altogether changed in structure and consistency, being soft. The colour was dark grey; all the membranes were thin, bloody, and in some places dissolved into a bloody gangrenous mass. At the cervix two openings were found, one the size of a silver shilling, the other like an eightpenny piece,—small ovals with round corners; also in the fundus several small openings were found, which seemed soonest to appear in attempting to loosen the bladder from the surrounding parts to which it was adhering. The entrails were covered with a coat of plastic lymph which in some places resembled a pseudo-membrane of the thickness of thick paper: this was loosened in large pieces. There was also some liquid pus, but it was nowhere gathered in any large collection. The ileum on the side opposite the fastenings of the mesentery, was partly injected. The remaining organs in the lower part of the belly, as well as those within the thorax, were sound.—*Bibliothek for Laeger.* (Physician's Library.) Edited by Dr C. Otto, Professor in the University of Copenhagen. No. 3 for 1844, p. 1.

Luxation of the Axis posteriorly upon the Atlas. By M. Hirigeyer.

Attentive observation is every day adding to the acquisitions of science in all that regards the department of luxations; and we carefully preserve all such facts as the following, which place in the light of certainty that which was formerly merely speculation. There are only two cases of posterior dislo-

cation of the axis on record; the one by J. L. Petit, which is of little value, as we do not even know that a dissection was made; and the other, by Sir Charles Bell, is related so shortly, that it throws a small amount of light on the history of this species of luxation. The following observation will, therefore we have little doubt, be read with interest.

CASE. On the 17th November 1842, at 8 A.M., an individual, sixty years of age, was brought to the Hôpital Saint André. He was a mason, who having been engaged at work at a height of sixteen feet, had lost his balance, and fallen down head foremost in a heap of sand. He was immediately placed under the care of M. Chaumet, head surgeon, who examined him alongst with M. Hirigeyer. Profound coma, eyes closed, no deviation in the features of the face; respiration soft enough, but somewhat feeble and slow; pulse scarcely to be felt, 58 in the minute; complete flaccidity of the muscles, and remarkable flabbiness in all the regions of the body. No blood had escaped either by the nose or ears; there was no trace of wound or contusion; there was merely a slight excoriation of the skin at the internal side of the right carpo-radial articulation; the vertebral column exhibited no deviation; the head was thrown somewhat backwards, but not more, however, than what is usually observed in a dead body stretched upon a horizontal plane; it was, at the same time, tolerably moveable.

After having examined the various parts of the body, M. Chaumet pronounced the patient to be labouring under concussion of the brain; all the symptoms, indeed, were in accordance with those described by Delpech, as referable to the first and second stage of concussion. He prescribed, accordingly, sinapisms to the lower extremities, purgative injections, and a bleeding from the arm, if the pulse should rise, &c. These means produced no effect; the pulse continued in the same state of feebleness and slowness; the eyes remained closed, the globe motionless, and the pupil largely dilated, and the transparent cornea somewhat dim. He expired early on the following morning, without ever having had either a convulsion or a spasmodic movement.

Impressed with the idea that death and the preceding symptoms were to be attributed to violent concussion of the brain, M. Hirigeyer proceeded with the greatest care to the examination of the organ; but he found neither effusion of blood upon the membranes, nor any alteration of the cerebral substance. The disorder was elsewhere. "On attempting to remove the brain," he says, "from the base of the cranium, and for that purpose plunging the blade of the scalpel into the vertebral canal, to divide the medulla, my attention was suddenly directed towards that region. The medulla oblongata, which always lies free in the canal, appeared entirely pushed backwards, and even somewhat flattened, against the posterior arch of the atlas. I divided it as low down as possible, and it remained attached to the brain, which I now removed. Nothing remarkable was observed either at the base of the brain or cerebellum; the medulla oblongata exhibited a visible flattening, from before backwards, on a level with the inferior third of the corpora pyramidalia; I could not say, however, that there was any disorganization of its substance. A blue colour was perceived anteriorly, through the spinal portion of the dura mater, occasioned by an effusion of dark blood between it and the vertebræ; a considerable projection into the cervical part of the canal occasioned the flattening of the medulla. I divided the dura mater over this projection, and discovered the odontoid process, behind the transverse ligament, and a little more to the left side than the right; the odontoid ligament of the latter side was entire, whilst that of the opposite side was completely ruptured, on a level with the apophysis. The odontoid ligament, which was entire, rode, as it were, over the transverse ligament; so that the apophysis was prevented rising behind this latter, or being carried so far back, as completely to crush the medulla. The articular apophyses were separated the one from the other; there was no fracture. The rest of the spine was in a healthy state. Nothing particular was observed in any other of the visceral cavities.—*Bullétin Méd. de Bourdeaux*, as quoted in *Journal de Chirurgie*, December 1844.

[The case of J. L. Petit, our readers may recollect, was that of a child, who was instantaneously killed, by being lifted up by the head. In that of Sir C. Bell, the accident occurred from the individual falling forward with his chin upon the curb stone: he was instantly motionless, and when brought into hospital was quite dead. On dissection it was found, that the odontoid process had broken from the hold of its ligaments; and the transverse ligament yielding, the process had crushed the medulla oblongata.]

Diseases which may be Mistaken for Hernia. By Mr Shipman.

I have known hydrocele of the cord mistaken for strangulated hernia, and the operation performed; and I can conceive a case which it might require great discrimination and tact to distinguish. I have known psoas abscess to be mistaken for crural hernia, and have had patients come to me with a truss on such a swelling. When the abscess first appears beneath the crural arch, the appearance and symptoms may lead to this mistake. It is an error, harmless compared with mistaking hernia for abscess, and plunging a lancet into the tumour, when the escape of wind and feces announce, to the astonished surgeon, his error in diagnosis. Such an occurrence actually occurred in this State not many years since. The patient died, of course, from extravasation of feces into the cavity of the abdomen, and inflammation. It is not an unfrequent occurrence to be consulted by a patient with a truss, who, on examination, is found labouring under varicocele. The mistake of itself is rather harmless, as the patient, finding his symptoms a little aggravated, applies again to his surgeon, who finds the truss does not keep the tumour in the abdomen, removes it, ascertains the true character of the difficulty, and either operates for the varicocele, or leaves off the truss. Hydrocele is sometimes mistaken for hernia. An instance fell under my care not long since, where a man came to me to get a certificate to exempt him from military duty. He stated to me that he had a hernia, and showed me several certificates to that effect from surgeons who had examined him annually for four years.

I found him with hydrocele of the tunica vaginalis, and cured him soon after by an operation.—*American Journal of the Medical Sciences*, January 1845.

MIDWIFERY.

Singular Case of Retroversion of the Uterus. By Dr de Billi.

On the 1st February 1844, a woman, aged 28, of a lymphatic temperament and middling stature, was admitted into the Maternity Hospital. She had been in labour from the preceding day.

She had given birth, seven years previously, to a well-grown living child, at the natural period; and, with the exception of habitual constipation, had always enjoyed good health. In this her second pregnancy, the constipation from the first had become aggravated, and towards the third month of gestation, she began to suffer from a painful sensation in the cavity of the pelvis, as if it were filled with some voluminous body.

During the fourth month, she suffered from severe and dragging pains in the inguinal regions, thighs, and loins. To these were added, during the fifth month, dragging pains in the vagina, increased constipation, and difficulty in passing urine. During the sixth, the whole symptoms became aggravated. During the seventh, she suffered much from acute pains in the interior of the pelvis and anterior part of the abdomen, which obliged her to keep her bed; the urine was passed with great difficulty, and alvine evacuations were only obtained by repeated purgatives and clysters. Towards the middle of the eighth month, (the 28th January), there escaped from the vagina a quantity of

fluid, at first of a whitish colour, afterwards of a dark green, which procured but little relief. On the evening of the 31st, the premonitory pains of labour appearing, a midwife was called, who, after repeated examinations, being unable to find the os uteri, sent for a surgeon: they believed the case to be one of extra-uterine pregnancy: next day she was brought to the Maternity Hospital. The above particulars were communicated to me by the woman and the midwife who assisted her. On examining the abdomen, I felt a round uniform body, which could be nothing but the uterus in the eighth month of pregnancy. On internal examination, the conformation of the pelvis was found to be normal, but the superior aperture and excavation were filled with a round body, situated between the rectum and vagina, and covered with the posterior parietes of the latter. The vaginal canal was somewhat compressed between the tumour and pubes; the os uteri could not be reached by the finger.

In order to ascertain the position of the os, and to get at the fundus of the vagina, I introduced into the latter a female syringe, which was of such length, that externally I could discover its extremity five fingers breadth above the pubes. A fluid escaped from the vagina, resembling the liquor amnii coloured with meconium.

On introducing the finger into the rectum, I found it compressed between the tumour and the posterior surface of the pelvis. I was also enabled to ascertain that the tumour contained the head of a fœtus, the fontanelle and sutures of which were distinctly felt. On applying the stethoscope, no sounds of the heart were heard. The movements of the child had ceased three days previously, and the labour pains were slight, and at long intervals.

I now suspected the true state of matters; but in order to ascertain them with certainty, I caused the woman to lie down on her right side, introduced the left hand into the vagina, and having, with considerable difficulty, passed the point where it was compressed, I carried on the finger till it reached the point of the syringe, and there I found the os uteri. It felt like a fissure of the breadth of the thumb, and of four lines in extent from before backwards. On penetrating it with the point of the finger, I discovered the presenting part of the fœtus, which, from its softness, and the signs already described, I concluded to be the nates.

There remained no doubt, therefore, from the above observations, that the fœtus was in the uterus, and that the fundus of the latter lay in the hollow of the sacrum, whilst its orifice was at no great distance from the umbilicus of the woman. In order, therefore, to obtain the completion of the labour, it was necessary to reverse the situation of the uterus, by elevating the fundus and bringing down the neck; and to accomplish this, I caused the woman to lie transversely across the bed, on her side; I then placed one hand externally on a point corresponding to the situation of the os, and passed the other into the vagina; making a lever of the latter, I gradually pushed up that part of the uterus which lay in the pelvis, in a direction from behind forwards, and from below upwards, and thus succeeded, but not without difficulty, in getting it above the brim of the pelvis. With the hands situated on the abdominal parietes, I then compressed the other extremity of the uterus, and caused it to describe a semicircle; by means of which, its fundus, after traversing the whole internal posterior portion of the abdomen, rose upwards, and the orifice descended.

This manœuvre was of short duration; and the woman assured me that it caused her little pain. On introducing the finger into the vagina, the os uteri was felt of the shape above described. On examining its fundus through the abdominal parietes, I remarked a deep fissure on its left side, produced by the pressure it had sustained at the brim of the pelvis. The operation was performed early in the evening; during the night there were pains, with long intervals between. At seven in the morning, the orifice had assumed a somewhat circular form, and was placed in the centre of the pelvis; some dark fetid fluid escaped and the nates of the child could be distinctly felt. The woman complained of pain over the whole abdomen; the uterus also was painful to the touch, and the pulse febrile. A bleeding from the arm dispelled these symptoms,

and at 11 A.M., labour terminated naturally, the nates presenting in the first position.

The child was dead: it weighed twelve pounds and a half, and was eighteen inches and a half long. The placenta was expelled a few minutes afterwards. The contracted uterus was somewhat voluminous, and of an oval form; on the left side of the fundus there was a tumefaction.

The patient passed the first five days favourably, but on the sixth, the secretion of milk and lochiæ diminished, the uterus became painful, and symptoms of fever manifested themselves; leeches were applied to the labia, and the symptoms disappeared. On the twelfth, the woman was able to leave the hospital in perfect health.

This serious and extraordinary case appears to me to have been produced by the causes already noticed.

In the early period of pregnancy, the uterus descends somewhat, naturally, and is inclined towards the sacrum, so that it may be regarded as in a state of slight retroversion.

It is probable that, in this woman, the weight of feces, owing to her great constipation, pressing upon the fundus of the uterus, gradually increasing in size, and the straining to which she had recourse to expel them, increased the above-mentioned deviation, and ended by forcing the fundus of the uterus more and more downwards. The weak and relaxed state of the fibres, also, permitted the elongation of the vagina and ligaments of the uterus, by means of which the latter with its neck was gradually carried upwards, and at last cleared the superior aperture of the pelvis.

The viscus not lying with its longitudinal axis between the pubes and sacrum, no incarceration occurred, as usually happens, but it distended freely in the abdominal cavity. The development of the uterus in this abnormal direction gave rise to the series of morbid phenomena which I have just described; and towards the middle of the eighth month, it is probable that the vagina and ligaments not yielding to further distention, the uterus could consequently expand no farther, so that the rotation of the membranes and parturition took place.— *Gazzetta Medica di Milano*, 4th January 1845.

[We regard this case as highly interesting and important, because it throws light upon a point which has been much controverted, and which has not yet been satisfactorily elucidated,—namely, *the possibility of a woman reaching the full period of gestation with retroverted uterus.* Dr Merriman has done most, perhaps, to elucidate this matter. He has brought under notice a case in which this occurrence was alleged to have been observed by Dr S. H. Jackson, more than forty years ago; and a second, published by himself in 1810. It was with regard to these cases that a late celebrated professor, not a hundred miles from Edinburgh, used to declare, that such a case never had occurred, and never would occur. M. Chailly again, we believe, is inclined to explain this class of cases upon the idea that the os uteri is found in them in an anormal position—having an anterior obliquity. Whilst we would not deny the occurrence of these cases, yet we are inclined to hold that irrespective of them, there occasionally, as in the present case, appear instances of retroversion, which require their appropriate diagnosis and treatment.]

EXTIRPATION OF THE UTERUS. BY M. MOLLET, Chief Surgeon to the Hôtel Dieu at Brest.

Madame P., aged 47, of a feeble constitution, and mother of three children, experienced for the first time, in 1831, obscure pains in the uterus. The surgeons whom she consulted thought that they recognised an incipient uterine polypus. A bandage and emollient baths were prescribed. Five years elapsed. The menses disappeared; and Madame P. enjoyed tolerable health. Towards the end of 1843, bloody discharges occurred, at short intervals. At the commencement of 1844 they became more frequent and abundant. The general health now became impaired; the face pale, and she lost flesh ra-

pidly. She now resolved on visiting Brest, where she hoped to find more readily the assistance which her state required. For five months Dr Mollet employed all the means usually indicated in similar cases, to arrest the frequent hemorrhages, which were at times considerable. The health of the patient appeared somewhat impaired, when on the 26th October she suddenly experienced a sensation, as if a heavy body had escaped from her abdomen, through the vagina. Her ordinary medical attendant, who was immediately sent for, found a grey tumour projecting between the thighs; it had an oblong pyriform shape, with a large inferior extremity, and was covered, here, and there, with black suppurating spots. It was five inches long, and three inches broad; hard, and compact at its inferior extremity, but, at some parts, yielded a sensation of fluctuation to the touch. Dr Mollet having called into consultation several of his brethren, they were *unanimously* of opinion, that it was a case of complete inversion of the uterus.

What then was to be done? reduction was impossible; any attempt to effect this would only have given rise to needless and severe pain. The only chances for the patient were, either to leave the disease to nature, or remove it by operation. In the former case, every thing was to be feared from the prolonged contact of air, the clothes, urine, &c. In the other, a considerable risk had no doubt, to be run; but similar facts attested the possibility of success. Dr Mollet, one of the consultants, had no doubt upon the matter; he gave his opinion for the operation; and at once indicated the proceeding applicable to the case. But his advice was not adopted by the majority. The operation, moreover, could not take place without the consent of the patient, and at that time it was not thought necessary to ask it. Next day the tumour was more voluminous; its inferior surface, and fundus, were covered with ulcerations, which yielded a sanious ichor of intolerable smell. The superior part of the vagina dragged from above downwards, projected beyond the opening of the vulva. The patient began to lose courage; her pulse fell, the features became contracted, pale, and cadaverous, and the eyes hollow. The urine was passed with difficulty. Five days had now elapsed. The tumour had increased in all directions; the odour from it had become more and more intolerable, and the ulcerations had assumed a more and more unfavourable character. Pus escaped in abundance from the walls of the vagina, and slight hemorrhage had occurred. The patient, now quite exhausted, requested admission into the hospital, for the purpose of submitting to operation, which took place on the 5th November, in the following manner:

At the time of the operation, 11 A.M., the patient was in the following state: pulse, small and low, though it might have been worse; skin soft to the touch, without coldness; face pale, but not contracted; eyes clear, without being brilliant; abdomen soft to the touch, without pain; and she had just passed urine without difficulty. The tumour of a greyish white colour, and larger than on the preceding days, was covered with a thick, blackish, oily exudation; in length it measured seven, and in breadth, three and a half inches. Reasoning on the hypothesis that the case was one of total inversion of the uterus, and that its peritoneal surface had become internal, and formed a sac, it was agreed that the following ought to be contained in the cavity: 1st, The uterine peritoneum; 2d, The Fallopian tubes; 3d, The ligaments of the ovaries; 4th, The round ligaments; 5th, The broad ligaments; 6th, Perhaps also the ovaries; 7th, The fundus of the bladder; 8th, A portion of intestine? An incision through the tumour was, therefore, necessary, to ascertain its contents. To provide for the occurrence of serious hemorrhage, it was agreed that a ligature should previously be passed round the neck, which could be suddenly tightened, should that prove necessary. The vagina, also, being enormously swollen and schirrous, and dragged by the inversion from above downwards, it was considered necessary that a portion of it should be removed at the third step of the operation. But as it might suddenly recede, after amputation of the uterus, it was, therefore, essential to retain it in its place, and for this purpose a second ligature was passed loosely upon the organ, a full inch above the preceding.

The woman being conveniently placed, and these ligatures introduced, Dr

Mollet, in presence of the gentlemen who had previously held the consultation, and several other naval surgeons, immediately performed the exploratory incision parallel with the axis of the tumour. His bistoury plunged into a schirrous, lardaceous tissue; advancing with precaution, he reached the middle of the tumour, continuing to divide nothing but what was essentially schirrous. It was now evident that the tumour was either not formed by the uterus, or that the latter had become converted into a compact, homogeneous mass, without a cavity. Circular amputation of it might, therefore, be had recourse to, without inconvenience, below the inferior ligature. This second step of the operation was performed without hesitation, and with almost no hemorrhage. The surgeon then examined the parts comprehended between the two ligatures. They were evidently degenerated and schirrous to within three lines of the superior one. An incision, four lines in depth, was boldly made, from above downwards, in the anterior portion of the vagina; the instrument met with a round body, which one of the assistants took for the fundus of the bladder, but which others, and the operator himself, conceived to be a hypertrophied ovary. Dr Mollet cut round it with the bistoury, and rapidly removed it, as well as the diseased portion of the vagina, whilst the assistant powerfully tightened the ligature, in order to strangulate the parts situated below the section. A few drops of blood only escaped at first, afterwards a small artery bled a little, but it was easily secured. The whole of the diseased parts were removed; those portions which projected beyond the ligature, presented the appearance of a mushroom; a second ligature was applied to them as a matter of precaution. The parts having been dressed, the patient was placed in bed. The operation lasted thirteen minutes.

It was supposed that in the third step of the operation an ovary had been removed; on examining the parts attentively, however, it was discovered that the entire uterus itself, in a schirrous state, had been removed. The two folds of peritoneum, the Fallopian tubes, the broad ligaments, divided within 1·3 line of their insertion, were recognized. What then was the nature of the external tumour, which had been taken for the body and fundus of the uterus? An enormous polypous mass developed in the os tincæ, and weighing two pounds three ounces. Thus, the uterus was not inverted, but merely dragged from above downwards, by an enormous polypus; the diagnosis was, therefore, erroneous; but, from the state of the organs, the operation was not the less absolutely necessary. For three days the patient did remarkably well, but died on the fifth.—*Annales de Thérapeutique*, January 1845.

[It is impossible to peruse this case, and especially the account of the parts after removal, without the question presenting itself,—was sufficient care taken to ascertain their real nature and connections? Without dwelling upon this point, we remark, that most clearly does the case illustrate the difficulty of recognising the true character of polypi of this kind, and the unspeakable importance of a correct diagnosis. As illustrating this interesting topic, we shall venture to copy a few excerpts from a manuscript copy of "Notes of Lectures" of the eminent Edinburgh Professor of Midwifery, embodying the clear and satisfactory instruction which he is in the habit of giving in thiso bscure and difficult matter; and affording another example of the benefit to be derived from the use of the uterine sound.

"In polypi arising from any part of the interior of the uterus, and projecting into the vaginal cavity, the stalk of the tumour is always found more or less encircled by the lips of the dilated os and cervix of the organ. The tracing, with the finger, of this circle of the cervix, round the pedicle of the polypus, forms always an important diagnostic mark in such forms of the disease. Thus Dupuytren remarks, 'The essence of diagnosis is always the exploration of the neck,—of its central orifice, and of the circular cul-de-sac, which separates it from the vagina.'

"When, however, a polypus arises from the edge of the os uteri, or vaginal surface of the cervix, the above important diagnostic mark is wanting; and the case, in consequence, becomes one, the nature of which is often much more dif-

ficult to determine. Speaking of this form of the disease, Dr Gooch states strongly the difficulty of diagnosis in such cases. 'I have seen,' he observes in regard to them, 'the most experienced practitioners in London puzzled to tell what was the nature of the tumour in the vagina, and what ought to be done for it; and Lefaucheux describes the appearances on dissection of a case of this form of polypus, which during life could not be discriminated from complete inversion of the uterus.

"The difficulty of diagnosis of polypi of this kind, arising from the edge of the os uteri, or from the vaginal surface of the cervix, does not depend merely upon our not finding the pedicle of the tumour encircled, as usual in other forms of uterine polypi, by the dilated orifice of the uterus, but also from this still more fallacious circumstance, that the os uteri, though traceable in the stalk of the tumour, is generally so displaced in situation, and altered in form, as to render its identity doubtful. 'In these cases,' remarks Lefaucheux, 'the orifice of the uterus has always lost its natural form. It is found situated obliquely, and the lip of the cervix which is not the seat of the pedicle is the most elevated, the pedicle elongating, on the other hand, that lip to which it is attached. When the pedicle,' he adds, 'has taken its rise in the cellular tissue of the greater part of the circumference of the orifice of the uterus, it is sometimes very difficult to distinguish between such a polypus and inversion of the organ, for the remainder of the orifice forms only a kind of fissure, which is detected with difficulty, and through which it is impossible to introduce the finger.' The difficulties attending the diagnosis of the form of polypus to which these remarks refer, would, in most, if not in all cases, be perfectly removed, if we could assure ourselves that the body of the uterus itself was of the natural size, and in its natural position, and that the opening or imperfect cleft that may be traceable on the inside of the tumour was in reality the os uteri. If these points could be fixed with certainty, the attachment and nature of the tumour would become at once evident,—the question of the propriety of its removal would be resolved,—and the exact point of its removal more safely and certainly determined, than it otherwise could be. In those cases where the stalk grows from the cervix, the rule being, as laid down by Gooch, that the knife or ligature ought to be applied a little below the orifice, if it can be distinguished. These important points in diagnosis and practice we would, in future cases, propose to fix by introducing the sound into the uterine cavity, so as to determine the real situation of the os, and the position and state of the uterus itself, as ascertained by the direction and length of its cavity. The introduction of the instrument in particular cases of this complication will require unusual care and patience, in order to pass it through the displaced and altered uterine orifice, and a sound of a smaller size than usual may in some instances be necessary. But the clear information afforded by the examination in a set of cases that are so often doubtful and perplexing in their character, will amply repay the mastering of any such difficulties as I have presupposed in the employment of the means."]

A CASE OF LARGE CAULIFLOWER EXCRESCENCE SUCCESSFULLY REMOVED, TOGETHER WITH THE PORTION OF THE CERVIX UTERI FROM WHICH IT GREW. BY W. F. MONTGOMERY, M.D., Dublin.

Considering the universal failure of merely palliative treatment in this disease, and its invariably fatal issue, it appeared to me that I ought not to withhold the report of a well-marked case, in which I was fortunate enough to effect a cure by extirpating the diseased mass, together with the portion of the cervix uteri from which it grew.

In the *London and Edinburgh Monthly Medical Journal* for October 1842, Dr Andrew Anderson of Glasgow, published the results of some very accurately conducted investigations, by the microscope and otherwise, into "the Anatomical Structure of the Cauliflower Excrescence of the os uteri," which paper will well repay the reader for its perusal.

The patient whose disease afforded the object of Dr Anderson's paper, after-

wards came under my care in the spring of the following year, namely, 1843, the morbid growth having again acquired considerable size, and effected deplorable inroads on her constitution.

March 2, 1843.—I was requested by Dr Crocker to see this patient, named Crawford. She was 45 years of age, had had nine children, the youngest of whom was nearly 4 years old, which child she had nursed for 2 years and 3 months; and had been complaining of her present symptoms ever since she weaned it.

Her aspect was of the peculiar sallow hue resembling dirty parchment, which we so constantly find accompanying malignant disease. She had constant profuse watery discharge, and occasionally copious hemorrhage, so that her dress was completely saturated, and exhaled a very offensive odour.

She complains of a slight stinging pain over the pubes, which, however, was only occasional, and productive of but trifling annoyance; the functions of the bladder and bowels were not disturbed.

On examination, I found the vagina nearly filled with a rather firm, rough, lobulated tumour, around which I could readily pass my finger, but could not find the os uteri, from the margin of which the tumour appeared to spring, as well as from the contiguous portion of the vagina; the tumour bled readily on being touched, and was much more solid in some parts than in others.

By the speculum the tumour was readily brought into view, and after wiping from its surface a layer of coagulated blood with which it was covered, it appeared of a dull, dirty whitish, or drab colour; its surface uneven and studded with a number of small tubercles, like the head of a cauliflower.

March 4.—I included the whole of the tumour in a ligature, which I placed as high up as possible, its application gave no pain, and very little discharge occurred. After applying the ligature, I drew it up one inch, and ordered the patient an opiate. The ligature was tightened every day, and doing so was followed by sharp abdominal pain, without any accompanying tenderness or acceleration of the pulse; indeed pressure over the pubes gave her so much relief, that she constantly kept her hand firmly pressed over that part.

On the 12th,—I found I could not draw the ligature any further, it had evidently come home to the top of the canula, and yet, neither it nor remains of tumour would come away; and being unwilling to allow the latter to remain any longer, I introduced a curved scissors, and removed the greater part of it.

16th.—I exposed the upper part of the vagina by the speculum, and seized the remaining portion of the root of the tumour with a dressing forceps, when it came away completely, leaving the surface behind it clean and healthy-looking; it sprung from a space of about the diameter of a halfpenny, engaging the margins of the os uteri and the vaginal mucous membrane, towards the left side.

On examining carefully the substance brought away, I found I had removed, not only the morbid growth, which was now reduced to a mere bundle of ragged filaments, but also the parts from which it sprung, namely, the os uteri, and a portion of the vagina. The serous discharge and peculiar abdominal pain, now ceased.

On the 7th April she menstruated naturally; and on the 17th April I examined her with the finger and with the speculum, and found her free from any remains of the disease.

She has now menstruated regularly and fully during nearly 21 months. Her health is quite good, and her aspect is much improved. There is no projection of the cervix uteri into the vagina, and the os uteri has entirely lost the defined margins, which are natural to that part in general; it is very much closed, and gives to the finger the feel of a small puckered cicatrix; but all the parts are quite healthy and sound.

Remarks.—My experience in this instance, as well as in others, leads me to recommend strongly a trial of the ligature in these cases, even though it should not succeed in effecting a complete cure; because, beyond all question, a great improvement is thereby, in general, effected in the condition of the patient. The discharges, if not removed, are greatly diminished, and a decided improve-

ment in the strength, and general health often follows with surprising rapidity, and continues sometimes for months. These results were particularly remarkable in the last case which I treated in this way, in conjunction with Mr W. Collies, the patient expressing herself as feeling better than she had done for months, even before the ligature had ceased to act, and within a month she had recovered her strength and complexion to a degree that was really surprising, as well to herself as to others. She was, moreover, gaining flesh, although the tumour was beginning to grow again. The only objections to such a proceeding, that I have heard urged, are the risk of producing dangerous hemorrhage, either at the time of applying the ligature, or on the separation of the tumour; and, secondly, the danger of producing great constitutional disturbance, by including a portion of the uterine substance in a ligature. Now, with regard to these objections, I have to observe, that in the instances which have fallen under my observation, no hemorrhage worth noticing occurred either during or in consequence of, the application of the ligature, and even if there had, it could be readily controlled by ordinary means; with regard to the second objection, —this is, of course, a risk which we may have to encounter; but as far as I have seen of these cases, the effects thus produced have been very manageable, and by no means to be compared to those resulting from the application of a ligature to the body of the organ, as in cases of inversion; which operation has, nevertheless, been repeatedly performed with safety and success, by many persons, among whom I may mention, Dr Johnson of this city, in whose hands the operation has succeeded so often as five times.

In cases of this kind, after the extirpation of the tumour, I would recommend, that the surface from which it has been removed, should be freely touched with some active caustic, such as the strong nitric acid, fluid nitrate of mercury, nitrate of copper, or perhaps with the actual cautery, which Dr Johnson informs me, proved eminently useful in a case lately under his care.

It is deserving of notice in this case, as I have found it also in other instances, that while the greater part of the morbid growth possessed only the ordinary degree of consistence usually met with in this disease, there were portions of a much more firm and solid structure, which, I think, is a point deserving of recollection, because if not borne in mind, an unnecessary difficulty and embarrassment may be thrown in the way of making an accurate or satisfactory diagnosis.

I may observe here, that one of the most destructive characters of this growth, when brought under inspection, during life, is the semi-transparency of many of the superficial granules; which present to the eye very much the same appearance as the vesicles occasionally visible on the surface of the ovary.

In a case of this disease, which occurred to me in the year 1828, and of which an account is published in the Transactions of the King and Queen's College of Physicians in Ireland, New Series, vol. i. 1830, there was in addition to the affection of the os uteri, a growth developed in one of the ovaries, the character and appearance of which so strikingly coincide with so many parts of Dr Anderson's description of the cauliflower excrescence, and with his representations thereof, especially fig. 2, that I cannot avoid concluding that the disease is the same as that of the os uteri, but modified by the difference of the structures engaged. Crawford's case appears to me peculiarly valuable, as showing that, even when the disease has been long in existence, and after the morbid growth has acquired considerable size, and when the constitution has been reduced to the lowest degree of exhaustion, there still exists a reasonable chance of its being successfully removed, and this too, after the failure of previous attempts of the same kind.

Dr Montgomery next quotes, at considerable length, the anatomical description, given by Dr Anderson, of the tumour, for which we refer our readers to the pages of this Journal for October 1842; merely stating, that it appears from his observations, that it is composed of a membrane.—Abridged from the *Dublin Journal of Med. Science*, for January 1845.

Fatal Case of Cæsarean Section. Observed by Dr Löhr, Practising Physician of Slagelse.

On the 6th of August 1839, betwixt seven and eight o'clock in the morning, I was requested, by a messenger on horseback, to accompany him to a woman in labour. On my arrival, in about an hour and a-half, I found her lying in bed, with the midwife in attendance. From the latter I learned that the patient was unmarried, thirty-nine years old, and that she had already been for two days and three nights suffering the severest pangs, without the least alteration in the progress of parturition, although the child was in the proper position, and the membranes had burst at the very beginning. The patient was, according to measurement, only 1 ell 23 inches (*i.e.* about 4 feet English) in length, and without any outward apparent deformity. I found, on farther examination, that notwithstanding the proper position of the child, she could neither be delivered by turning nor the application of forceps, as the promontory of the sacrum was very large, and jutting out considerably with a nearly cutting edge: its distance from the symphisis might be about $2\frac{1}{2}$ inches. I then informed the midwife of the difficulties of the case, and desired the assistance of a physician. In consequence of this, M. Goellrich, district surgeon in Skjelskjör, was called. On his arrival the same day, at four o'clock afternoon, I informed him of the patient's condition, and of the deformity of the pelvis, and after he had made an examination himself, he proposed the use of the forceps. Several attempts were made with them, but to no purpose. Several violent, but also fruitless attempts were made to accomplish, if possible, the delivery by turning. I was now resolved to have recourse to the Cæsarean operation; and it was performed with consent of the patient, the midwife, and the other persons present. The patient was laid in a bed, on which she could remain lying after the operation; thereupon, the external muscular parts, about $1\frac{1}{2}$ inch under the navel, in the *linea alba*, were carefully cut through, to such an extent as to allow of the ends of the fore and middle fingers being put into the incision, in order to lift therewith the external parts from the uterus, and thus fully to carry out the incision in an even line, from above downwards, to the extent of 6 or 7 inches. After the lower part of the belly was opened to this exent, the uterus was seen like a very dark red ball, to the left side of which some intestines were attached, without, however, rendering difficult the progress of the operation. The incision of the uterus was made in an equal line and length with the opening through the abdominal parietes, and the child was easily taken out along with the placenta—hemorrhage was inconsiderable—the edges of the uterine incision were drawn together quickly and well; and the edges of the wound in the parietes of the abdomen were brought together with three sutures, and after it had been washed, and the blood that had been pressed out, wiped away with a sponge, it was covered with a compress dipped in vinegar and water, after which the lower part of the belly was bound up with a broad bandage. The operation, which lasted about a quarter of an hour, was attended throughout with no difficulty, and the patient was particularly quiet, and uttered scarcely any complaint.

After the operation she was pretty lively, and asked for a little water, which she drank with some drops of naphtha. An "*emulsio communis c. nitro*" was ordered; and the patient recommended to be kept quiet and cool. I left her between 8 and 9 in the evening.

On the morning of the 8th I visited her again. The woman who had been watching beside her, then told me, that on the night between the 6th and 7th she had been very quiet, spoke of the operation throughout as not having been so painful as the preceding application of the forceps, that she had slept from three to four hours. On the 7th, during the day, she was likewise pretty well, had taken a little gruel, and the bowels had been pretty well opened; but towards evening she became restless, complained of pain in the genital parts, and in the wound, and was now and then delirious. On the morning of the 8th I found her in a violent cold perspiration, with cold hands, blue nails, and a low and scarcely perceptible pulse; I therefore made the persons present aware of her approaching death, and left her. An hour after my departure she died.—(From the

Annual Medical Notices sent in to the Royal College of Health, as quoted in the *Bibliothek for Laeger*, No. 1, of 1844.

VAGINAL PREGNANCY. Observed by M. MACKEPRANG, Candidate of Medicine at Möen.

On the 13th January 1839, I was called to a woman, pregnant for the first time. I found her much exhausted, with the pulse very weak, and with scarcely power to speak. During the last four months she had been confined to bed; in about the fourth month of her pregnancy she had had strong pressure downwards, and pangs likewise. Her father called on me at that time, and got a sedative mixture, after which the pains ceased; but a tumour appeared at that time in the back of the vagina, which had continually increased. On examination, this tumour was found about the size of the crown of a hat, (hattepuls) protruding upon the middle of the woman's thigh, and strongly pressing upon the *intestinum rectum*. The one arm had come forward by an opening behind, and pretty far down in the vagina; by this I could judge that the child had begun to putrefy. The arm was twisted off, and by the help of a hook I afterwards brought the child forwards pretty easily, by constantly working from below upwards, against the lower part of the woman's belly;—the *placenta* I did not dare to loosen immediately, for fear of hemorrhage, as it was joined very firmly to the vagina. The swelling was immediately much diminished; I applied aromatic fomentations, and, gave inwardly, the acid decoction of quinine. The midwife remained with the patient. I afterwards learned that the patient died two days thereafter. The child was of the male sex, and of the age of 7 to 8 months.

With regard to this graviditas extra-uterina I must remark, that the ovum had been first enclosed in the womb, but afterwards, in the third or fourth month, had entered into the vagina, and was there developed to its present size.—From the Annual Medical Notices sent in to the Royal College of Health, as quoted in the *Bibliothek for Laeger*, No. 1, of 1844.

CHEMISTRY AND MATERIA MEDICA.

ON THE PURPLE FOXGLOVE (DIGITALIS PURPUREA). BY M. HOMOLLE.

The author commences this treatise,—which obtained the prize offered by the Société de Pharmacie,—with a general account of the several memoirs hitherto published on this subject, and then describes some preliminary experiments, previously to arriving at the following process for eliminating the principle digitaline in a pure and crystalline state.

2 lbs. of the dried leaves of *Digitalis*, coarsely powdered and previously moistened, are conveyed into a displacement apparatus, and treated with water. The mixed liquors obtained are immediately precipitated with a slight excess of subacetate of lead, and thrown on a filter. They pass limpid, and nearly free from colour, preserving all their bitterness, and presenting a slightly acid reaction. Some dissolved carbonate of soda is added, until no further precipitate is formed. The liquid is filtered anew, and freed from lime, which it still retains, by oxalate of ammonia, and afterwards from salts of magnesia, by ammoniacal phosphate of soda.

The filtered liquor presents an alkaline reaction, is clear, of a yellow brown tint, and excessively bitter; a slight excess of a solution of tannin is added to it, and the precipitate formed collected on a filter, and dried between folds of blotting-paper, and then mixed whilst still moist with one-fifth of its weight of powdered oxide of lead. The soft paste which results is thrown on a filter to drain, pressed between blotting-paper, and finally dried in a warm chamber. It is then powdered and extracted with strong alcohol.

The alcoholic solution, sufficiently evaporated at a gentle heat, leaves as

residue, in the form of a yellowish granulous mass, with a small quantity of supernatant mother-ley, the bitter principle still retaining some traces of oil, salts, and extractive substances.

This mass is washed with a little distilled water, which removes any deliquescent salts, without perceptibly dissolving the bitter principle. It is left to drain, and again dissolved in boiling alcohol, with the addition of a sufficient quantity of charcoal, washed with hydrochloric acid. It is then boiled and thrown on a filter. The liquid passes colourless; left to spontaneous evaporation in a warm chamber, the substance is partly deposited on the sides of the dish in the form of thin, light, semi-transparent layers, and partly at the bottom of the vessel, in the form of agglomerated, whitish, granular flakes.

The perfectly dried product is reduced to powder, and treated with rectified æther. It is left 24 hours in contact, then boiled and filtered. This æthereal solution, on spontaneous evaporation, leaves a slight crystalline white layer, consisting of a certain proportion of the bitter principle, a trace of green oleo-resinous matter, a substance whose odour calls to mind that of *digitalis*, and of a substance crystallised in beautiful white needles, without smell, of an acrid and rather sharp taste, insoluble in water and alcohol, fusible at about 302° Fahr., and, upon cooling, forming a yellow radiated crystalline mass. The small quantity we have been able to isolate, has not permitted us to ascertain its other properties. We shall pursue the investigation of it, as soon as we obtain a sufficient quantity.

An experiment made on 250 grs. of aqueous extract of digitalis, prepared with care, which was re-dissolved successively in alcohol and water, did not enable us to obtain the bitter principle solid and completely isolated. We thence concluded that the heat required for preparing the extract, altered this matter still combined with the bodies which accompany it in the plant.

Another experiment, made on two quarts of juice of fresh digitalis, yielded a beautiful product; but the very small proportion seemed an objection to this method of preparation, independent of the very great inconvenience of only being able to employ this process at a certain period of the year.

The fermentation which the presence of a small quantity of sugar in the plant caused in the liquors, however little the temperature was raised, or the operation prolonged, the result of which was always the precipitation of a small proportion of altered bitter matter, induced us at first to add to the water with which the digitalis was exhausted one-tenth in volume of alcohol; we also hoped by this means to avoid the solution of a part of the salts of lime and of magnesia. We have had to abandon this addition, which rendered the process more expensive, without affording better results. In general it is best to carry on each operation rapidly, and to avoid a temperature exceeding 50° or 54° Fahr.

We pass on to the study of the physical and chemical properties of the principle which we have isolated, leaving it the name of digitaline, which former chemists have assigned to it by anticipation. Digitaline is white, colourless, difficult to crystallize, and assumes most frequently the form of porous masses, or of small laminæ. It is so intensely bitter that the 15th part of a grain suffices to communicate a decided bitterness to two quarts of water. The taste of solid digitaline is however slow in developing itself, owing to its sparing solubility in water.

It causes violent sneezing when it is powdered or agitated carelessly, even in small quantities.

Digitaline dissolved in water or alcohol is without action on red or blue litmus-paper: it is therefore a neutral substance.

A sample of this substance, purified with great care by alternate solutions and washings, without the use of charcoal, for fear of introducing foreign matters, was employed in ascertaining the following properties:—

Exposed in a tube to the action of heat of an oil-bath, it began at 356° to become slightly coloured; at 392° it had become brown; and towards 400° it began to soften to a sort of paste, which swelled, appearing to acquire a lighter tint from the interposition of gaseous bubbles. The temperature having been

carried by degrees to 428°, the substance diminished in volume, re-acquiring the brown tint which it had at 392°. When tasted after this experiment, it had lost a great part of its bitterness, and had acquired an acid, astringent taste.

Another portion, heated in the air on a slip of platina, became at first soft, then took fire and burned briskly, but with a somewhat dull and smoky flame. No visible residue is left; but on moistening the spot with a little distilled water, it becomes alkaline. The same phenomenon has been observed to a certain extent upon burning a small quanity of perfectly pure crystallized morphine. If the digitaline is not in a pure state, it burns, forming a very high porous mass, which disappears entirely if calcination be continued.

A portion burnt in a glass tube diffuses acid vapours. If it be heated with a fragment of potash, the vapours are alkaline; but as this occurred when experimenting for comparison on some pure salicine, we considered that it was due to a phenomenon similar to that described by MM. Faraday, Reiset, and Gerhardt, and that the nitrogen here disengaged in the form of ammonia, did not originate from the digitaline.

We were desirous of verifying the presence or absence of nitrogen, by M. Lassaigne's process,[1] and experimented comparatively on digitaline, salicine, and morphine. In the first two cases, we only obtained a faint greenish-yellow tint which we attributed to the persalt of iron, and with the morphine a slightly bluish emerald-green tint. Although these last results were not as decided as we had expected; for with morphine, a nitrogenous substance, we ought to have obtained a beautiful dark blue tint, yet as they were constantly the same in several experiments, we regarded them as confirmatory of our first conclusion, namely, that digitaline is not a nitrogenous compound.

Cold water dissolves a little more than $\frac{1}{2000}$th; boiling water about $\frac{1}{1000}$th; no opacity results on cooling. During the evaporation of the two solutions a part of the matter separated in the form of white flakes, and on the sides of the vessel some yellowish stripes formed, probably arising from an incipient decomposition of the digitaline by the heat employed for the evaporation. The best solvent for digitaline is alcohol. It takes up a large portion in the cold, and still more when heat is applied. The boiling solution, however, does not form any deposit on cooling. When digitaline has been purified by æther, it appears to dissolve with rather less facility in alcohol. The alcoholic solution, left to spontaneous evaporation, deposits the digitaline partly in a pulverulent, partly in a crystalline state. Towards the end of the evaporation the liquid often forms a kind of hydrated mass, which, after entire desiccation, takes the form of warty crusts. Concentrated æther dissolves so much the less of this bitter principle, the lower its density.

Action of Acids.—We have not been able to form any combination of digitaline with acids. This result was probable from the neutrality of this principle.

Digitaline becomes black directly it is placed in contact with concentrated sulphuric acid, and soon forms a solution which appears blackish-brown when examined in a thin layer; after some time this colour passes successively into reddish-brown, smoky-amethyst, pure amethyst, and finally to a beautiful crimson. If during this interval a portion of the solution is added to a small quantity of water, a clear beautiful green solution results. Concentrated hydrochloric acid quickly dissolves it, communicating to the liquid a yellow tint, which after a few instants changes to a beautiful emerald-green, and becomes darker and darker until it is of a dark green. In about an hour's time the liquor becomes turbid, and the matter at first dissolved is precipitated in the form of green flakes floating in a greenish-yellow liquid. In the course of two days the flakes have become of a blackish-green colour.

Digitaline does not dissolve in phosphoric acid, but merely acquires a slightly greenish tint after two or three days.

In pure concentrated nitric acid digitaline readily dissolves, with disengagement of reddish vapours, and forming a beautiful orange-yellow solution. The

[1] See Chemical Gazette, vol. i. p. 429.

following days the solution changed to a golden yellow colour, and so remains.

In all the above reactions the digitaline is more or less immediately destroyed.

Acetic acid dissolves digitaline without colouring or changing it, at least as quickly as the concentrated mineral acids.

Action of Potash.—A little potash added to an aqueous solution of digitaline causes the bitter flavour to disappear slowly; but if the mixture be evaporated to dryness, the bitter taste gives place to an astringent one.

The singular property which alkalies possess of destroying the bitter taste of certain bodies had already been noticed by M. Bouchardat, with respect to cynisine and lactucine; but we should add, that digitaline, submitted to the action of liquid ammonia for more than ten days, did not appear to undergo any alteration.

We have not found any salt which was precipitated by an aqueous solution of digitaline. A solution of tannin renders the liquid opaque white in mass, and opal only if a drop be examined; the precipitate does not begin to form till after twenty-four hours.

Amongst the different properties of digitaline which we have passed in review, there is one which seems especially characteristic, and which belongs, as far as we are aware, to no other substance; it is that of forming a beautiful emerald-green solution with concentrated hydrochloric acid. This reaction is the more valuable, as a particle of this substance placed in a tube with two or three drops of hydrochloric acid is sufficient to develope the green colour after a few instants; and we think that this character ought to form the proper criterion for discovering digitaline in medico-legal or analytical researches; afterwards will come the action of sulphuric acid and that of acetic acid.

The conversion of digitaline into an acid astringent principle, on the one hand by the influence of heat, and on the other by potash, joined to the slight alteration which we observed during the evaporation of the aqueous solution, indicate in a practical point of view that the employment of heat must be very unfavourable in making the pharmaceutical preparations which have digitalis for basis, and that care must be taken not to add alkaline salts to them.

We have seen that pure digitaline is scarcely soluble in water; we must not, however, conclude from this that this agent is unfit to dissolve the active principle of the plant. In the *digitalis* it occurs in combination with saline and extractive matters, which favour its solubility in this medium.

Digitaline which has not been purified by æther retains, as above stated, a green matter, an odoriferous substance, and a crystallizable principle, and is known by its peculiar odour, calling to mind that of *digitalis*. It dissolves but imperfectly in hydrochloric acid, so that the liquor remains turbid, but presents the same intense green colour. It moreover leaves some light flakes on solution in acetic acid.

The author has not submitted the digitaline to elementary analysis, not having been able to obtain it perfectly pure in sufficient quantity, the amount in the plant being extremely minute.

Physiological and Therapeutical Action of the bitter Principle of Digitalis.—M. Homolle exhibited the bitter principle to a rabbit, introducing 5 centigrms. into the cellular tissue of the thigh; it produced anxiety, trembling, and reduction of the pulse from 148 to 124; 10 centigrms. reduced it from 108 to 102, it subsequently rose to 144. 15, 20, and 30 centigrms. were afterwards given, and reduced the action of the heart 24 to 30 beats. During these experiments there was no vomiting; the state of the urine could not be satisfactorily ascertained. It was found that a fifth part of the quantity, which when taken into the stomach acted as a poison, produced the same effect when inserted beneath the skin. 5 centigrms. given to a dog had no effect on the pulse, but produced vomiting. A similar dose, repeated also, produced vomiting, a bloody stool, and increase of the pulse from 148 to 154. 5 centigrms. inserted beneath the skin caused staggering, hiccough, and trembling, and raised the pulse to 184, the action of the heart becoming irregular and tumultuous. 1 centigrm. applied to a blistered surface on the author's arm, in one instance reduced the frequency of

the pulse, in another increased it, with occasional intermission, producing headach, dimness of sight, and lassitude; the urine was diminished in quantity. Two centigrms. produced analogous effects.

The author remarks that 1 centigrm., endermically applied, is sufficient to produce all the poisonous effects, as headach, dimness of sight, general debility, shivering, diminished urinary secretion, irregularity and intermittence of the pulse, without alteration to its frequency. 5 milligrms. taken internally produced very similar symptoms, slight diminution of the frequency of the pulse, debility, and dimness of sight, normal quantity of urine, sometimes vomiting, increased frequency of pulse on assuming the erect posture; after the exhibition of the medicine was withheld, the quantity of urine was much increased.

In a severe case of pleurisy and pericarditis, complicated with anasarca, deficiency of urine, which was bloody, orthopnœa, tumultuous action of the heart, with a pulse which could not be counted, digitaline in the dose of 2 milligrms. repeated three times, was followed by the evacuation of 3 pints of limpid urine, and the pulse was reduced to 120 and regular. Four pills of 4 milligrms. were given during the next day, the urine continued abundant, the pulse was 96, occasionally intermittent; by the continuance of the medicine the pulse was finally reduced to 54, with occasional interruptions; the patient was afterwards completely cured. In a case of simple pleuritic effusion, digitaline appeared to hasten the absorption of the fluid. Its diuretic action was also well-marked in a case of nervous palpitation.

M. Solon not only has confirmed the experiments of the author, but has even found the digitaline more active than he did. He always observed that in the dose of 1 to 3 milligrms. in the day, its action on the circulation was marked, and reduced the pulse from 72 to 55 in the minute; the poisonous effects were always observed when the dose of the substance amounted to 1 centigrm. per diem. The diuretic action observed in some of the above experiments has not been confirmed. M. Solon concludes from his observations, that the dose of the digitaline should be from 1 milligrm. to 1 centigrm.—*Chemical Gazette*, 15th Feb. 1845.

Method of preparing Syrup and Extract of Digitalis. By M. Brun Buisson, druggist at Voiron (Isère).

All the analyses of Digitalis hitherto made have been so uncertain, and its exact chemical composition by means of these so indefinitely ascertained, that it is still a matter of doubt to what fluid menstruum the preference should be given, for obtaining the nearly total solution of the active principles of this plant. According to some, the watery preparations are the most certain and energetic; some prefer the alcoholic; whilst others, again, regard ether as the only solvent of the active principle, known by the name of viscous resin. But, although opposed to the opinion of M. Leroyer of Geneva, and others, ether dissolves merely the chlorophylle, and nothing else.

To obviate the above inconvenience, I subjoin two formulæ, generally employed in private practice, prepared by me officinally, and which, according to the testimony of those who have prescribed them, have led to more satisfactory results than those prepared by the ordinary process.

Syrup of Digitalis.

R. Leaves of Digitalis coarsely powdered, 44 grammes.
Commercial alcohol (32·c.), . 75
White sugar, . . 4000

The powder is put into a close vessel with such a quantity of alcohol as moistens it sufficiently to cause it to swell; after twenty-four hours' macerating, it is introduced into a suitable vessel to undergo lixiviation; at the commencement, I pour over it water, slightly tepid, in such proportions as nearly to displace the quantity of alcohol I had used in my first operation. I then put it aside, and continue to wash it with water at 80°, until I have obtained 4 lbs. of this ley or infusion. I then allow it to become entirely cold, beat up with

it two whites of eggs, add the sugar, and make my syrup by simple solution and heat. After having withdrawn the pan from the fire, and skimmed it, I then pour out my first alcoholic ley or infusion from a certain height, by a continuous stream, as small as possible, filter it through a piece of cloth, and when it has cooled, bottle it up. By this method I have always succeeded in obtaining a syrup which contains all the extractive principles of digitalis, and which keeps without undergoing alteration.

Extract of Digitalis.

In preparing the extract, I exhaust the plant by the same process, but without separating the two solutions, which, when united, yield a muddy liquid; the resin is not separated from its solution in the alcohol even on cooling. I evaporate it by means of a water-bath to the consistence of an extract.

It is by mixing five centigrammes of this hydro-alcoholic extract of digitalis, with thirty-two grammes of the English pectoral syrup, that I prepare a syrup which is prescribed under the name of Labélonye's hydro-alcoholic syrup of digitalis, and which, when prescribed in dropsy of the chest, pulmonary catarrh, acute or chronic, fulfils all the therapeutical indications of the syrup of M. Labélonye.—*Encyclographie Médicale*, January 1845.

Cerate made with Stearine.

In the last number of the *Journal de Chimie Médicale*, M. Barbin, druggist at Angérs, gives the following formula for preparing cerate, in which stearine may be advantageously substituted for wax.

R.	Stearine,	180	grammes.
	Rose water,	375	„
	Oil of almonds,	500	„

M. S. A.

It will be observed that the white wax is replaced by stearic acid, and in an excess of sixty grammes over that prescribed in the codex.

This process has the advantage of yielding a perfectly white and homogeneous cerate; it has the unctuousness of *cold cream;* and an hour suffices for its preparation. It costs less than that of the codex, and is equally efficacious. It might be substituted in hospitals where yellow wax is used, as the price of the latter substance is more than that of stearine.—*Encyclographie Médicale*, Jan. 1845.

On the Preservation of the Ergot of Rye.

It has been ascertained that the most carefully gathered ergot soon loses its therapeutic properties, if it be kept in a damp place, or exposed to the contact of the air and light. M. Victor Legrip of Chambon, in a recent number of the *Journal de Chimie Médicale*, advises the following method for preserving it in a good condition for several years.

1*st*, Reduce the recent ergot well dried into powder.

2*dly*, Expose the powder to a temperature of 45 or 50 degrees (centigrade), in order to dry it thoroughly and quickly.

3*dly*, Put it into glass bottles not exceeding a hectogramme in size, and seal hermetically.

4*thly*, Withdraw it from the action of light, by shutting it up either in a dark place, or by covering the bottles with black paper.

If the results obtained by this process be really as advantageous as the author announces, we cannot too soon direct the attention of pharmaceutists to it; for it too frequently happens, especially at the latter part of the season, that the officinal preparations of the ergot are so deteriorated, that it is impossible to calculate with certainty upon their effect.—*Bulletin Général de Thérapeutique*, August 1844, quoted from the *Journal de Pharmacie du Midi.*

On the Preparation and Employment of the Mouches de Milan. By M. Louradour.

We borrow from the *Journal de Chimie Médicale*, the following notice of a preparation, which may, in certain cases, be usefully substituted for the ordinary blister.

Take of the resin of Elemi,	. . .	125 grammes.
„ Liquid styrax,	. . . .	125
„ Yellow wax,	. . . .	150
„ Camphor,	. . . . .	30
„ Cantharides powder,	. . .	150

Melt the resin and the wax together with a gentle heat, then add the styrax, and afterwards the cantharides; place the whole over a gentle fire for half an hour. At the end of this time, withdraw it from the fire, agitate the plastic mass with a spatula, until it has become somewhat cold; then add the camphor, previously reduced into very fine powder.

This plaster, which is of a good consistence, produces speedy vesication. The dimensions of the small pledgets, for its application, may vary from eight or nine inches to two inches. The plaster is usually spread on black taffeta, in order to prepare the small pledgets, which bear the special designation of *mouches de Milan*. This plastic composition is employed as a derivative in cases of catarrh, pains of the head, sore eyes, and rheumatism.

One or two small pledgets are laid on the selected spot, and retained by means of a compress. They are only removed when no further secretion of serum appears, or they drop off of their own accord. They should, of course, be renewed, if necessary.—*Journal de Chirurgie*, December 1844.

On the Topical Application of Cod-Liver Oil in certain Strumous Affections.

For some time past our contemporaries beyond the Rhine have been celebrating with enthusiasm the brilliant results they have obtained from the administration of cod-liver oil, in the treatment of phthisis. Although experiments made at Paris have not tended to confirm these accounts of the German physicians, yet we ought not altogether to reject the employment of this medicine, as the investigations into its therapeutic qualities have not hitherto been either sufficiently numerous or varied, to fix in a determinate manner the opinion of practitioners. We hasten, in the meantime, to bring under notice such of the works as have been published by the German physicians in its favour. Dr Brefeld has recently published a memoir, in which his attention is devoted to the topical application of cod liver oil in certain strumous affections. In cases of tumefaction of the lymphatic glands of the neck, axilla, or inguinal region, this physician has prescribed with success the employment of frictions with this oil, over the inflamed and painful parts. It must be observed, that this topical medication is of no avail when applied to tumours which are the result of variola, scarlatina, or measles.

In the case of scrofulous ulcers, consecutive to inflammation and suppuration of the lymphatic glands, he employs the following ointment:

R. Cod Liver Oil,	.	15 grammes,
Saturnine Extract,	.	8 „
Yolk of Eggs,	.	12 „

Mix: and make an ointment perfectly homogeneous.

In the preparation of this ointment, the yolks of eggs may be replaced by an equal quantity of axunge. It is applied to the ulcerations thinly spread over charpie.

In cases of scrofulous blepharitis, with photophobia, M. Brefeld anoints the edges of the eye-lids three or four times a-day, with pure cod-liver oil, which he applies by means of a hair-pencil, or a feather.

In cases of enlarged mesenteric glands, he employs frictions with the oil over

the surface of the abdomen; if the latter be painful, he recommends the oil to be heated; if the pain is severe he uses camphor liniment made with cod-liver oil instead of the oil usually employed.—*Journal fur Kinderkrankheiten* as quoted in *Journal de Médecine* for Feb. 1845.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

SESSION XXIV.

(Continued from page 163 of February Number.)

FIFTH MEETING, *Wednesday, February* 5, 1845. Dr GAIRDNER, P. in the Chair.

CASE OF TETANUS, IN WHICH RECOVERY TOOK PLACE. BY PATRICK NEWBIGGING, M.D.—The subject of this case was a baker in the Grassmarket, aged 28, married, of sober industrious habits. On the morning of the 16th February 1844, when engaged with his usual occupation in the bakehouse, he had occasion to go out into the intensely cold air, to chop wood, while in a state of profuse perspiration. In the evening he complained of stiffness about the angles of the jaw, which gradually increased till the 19th, when the jaw became almost completely locked. Afterwards, the different muscles of the body became affected. The duration of the case was about three months. The principal treatment consisted in the free use of morphia, and the occasional administration of croton oil; for although arsenic, Indian hemp, colchicum, &c. were administered at different periods, no decided benefit was ascribed to them by Dr Newbigging, nor by the late Dr Abercrombie, Sir George Ballingall, Sir William Newbigging, and Dr Duncan, who also saw the patient from time to time. The author concluded his communication by remarking, that "there is one point on which all authorities on idiopathic tetanus seem to agree,—the torpid state of the intestines, and the offensive nature of their contents; and this condition is worthy of attention, showing how important must be the employment of well selected purgative medicines in such cases." [The complete history of the case has been published by the author, in the March Number of the *Northern Journal of Medicine.*]

Dr J. A. Robertson regretted that *tobacco* was not more employed. It had been abandoned to a great extent, probably from the uncertainty of its action; but he thought that in the shape of suppository, with a ligature attached—by which it could be removed at will—this difficulty would be overcome.

OBSERVATIONS ON THE MECHANISM AND DIAGNOSTIC VALUE OF THE FRICTION VIBRATIONS, PERCEIVED BY THE EAR AND BY THE TOUCH IN PERITONITIS. BY ROBERT SPITTAL, M.D., F.R.S.E.—*Dr Spittal* read a memoir "*On the Mechanism and Diagnostic Value of the Friction Vibrations perceived by the Ear and*

by the Touch in Peritonitis," in which he analysed the observations of previous writers, and communicated two original cases, which presented some features of novelty. Dr S. drew a series of conclusions on the subject, from which, as the memoir is to appear in the next number of this Journal, we only quote the following, as to the *mechanism by which the friction vibrations are produced.* This the author considers to be of *three kinds,* viz.—1. *The abdominal respiratory movements.*—2. *Artificial movements by the hand,* &c.—3. *The peristaltic movements of the intestinal canal;* each species producing certain peculiarities in the friction indications; and the last, the most remarkable of all the three, *imparting to the vibrations a continuous rustling, jerking, and creeping character, both to the ear and the touch, corresponding to the vermicular motion of the intestines.* From this latter observation, the author drew the inference, that the *peristaltic friction vibrations* may be regarded as indicating, *with certainty, that the peritoneum investing the corresponding portion of the intestinal tube is the part affected,* and that wherever these peculiar vibrations are *very distinctly* perceived, they may be regarded as indicative of a lively and free motion of the folds of intestine upon one another, and upon the parietes; or, at least, that adhesions, to any great extent, either between these folds, or between the intestines and the parietes, do not exist.

NEW MEMBER.—*Dr Etherington* was duly elected a member of the Society.

SIXTH MEETING.—*Wednesday, February* 19, 1845. WILLIAM BROWN, ESQ. V. P. in the Chair.

REPORT OF THE ROYAL LUNATIC ASYLUM OF MORNINGSIDE, EDINBURGH. BY W. MACKINNON, M.D., RESIDENT PHYSICIAN.—Some extracts from this Report (which is published separately) will appear in the Periscope of an early Number.

FATAL CASE OF ABSCESS OF THE BRAIN CONNECTED WITH OTITIS; CESSATION OF OTORRHŒA WITH SUPERVENTION OF YELLOW SKIN; ON DISSECTION, HYPERÆMIA OF THE SPLEEN, AND ALIMENTARY CANAL, WITH SOFTENING OF, AND EXTRAVASATION OF BLOOD UNDER THE GASTRO-INTESTINAL MUCOUS MEMBRANE; ALSO EXUDATION OF BLOOD INTO THE STOMACH, WHERE IT WAS CONVERTED INTO THE BLACK GRUMOUS MATTER COMMONLY CALLED "BLACK VOMIT." BY JOHN ROSE CORMACK, M.D., F.R.S.E.—This communication will be found at p. 267 of the present number.

CASE IN WHICH A PIECE OF GLASS WAS REMOVED BY OPERATION FROM THE LARYNX. BY GEORGE V. CUMMING, M.D., SURGEON, 12TH REGT., N. I. MADRAS. [COMMUNICATED BY DR CORMACK.] This case will be found at p. 274 of this number. Dr Cormack exhibited to the Society the piece of glass, which had been sent to him by the author along with the M.S.

SEVENTH MEETING. *Wednesday March* 5, 1845,—DR GAIRDNER, P. in the Chair.

ON THE FREQUENT SPONTANEOUS CURE OF PULMONARY PHTHISIS, AND THE INDICATIONS FURNISHED BY PATHOLOGY FOR ITS RATIONAL TREATMENT. BY DR J. HUGHES BENNETT.—*Dr Bennett* observed that if the cicatrices and concretions occasionally met with in the lungs indicate the previous existence of tubercle, it must heal spontaneously much more frequently than is generally supposed. Of 73 bodies he had examined since last November, he found puckerings or

concretions in the lungs in 28. Of these, puckerings existed, with indurations alone, in 12; with cretaceous or calcareous concretion in 16. They occurred in the right lung seven times, in the left lung twice, and in both lungs nineteen times. In three individuals the age was 18; between this age and 40 there were six; and after that epoch of life, nineteen. That these lesions were really proofs of cured tubercle was proved by numerous facts, and by the circumstance that every pathologist since the days of Laennec had considered this to be established. Hitherto, however, these lesions had been considered as occurring very seldom. The author considered, on the other hand, that his observations, combined with those made by Roger and Boudet in Paris, sufficiently proved that they occurred in the proportion of from one-third to one-half of all the individuals who die after the age of 40.

Dr Bennett pointed out that neither the chemical nor structural composition of tubercle, nor the nature of the action which accompanies its deposition, are in any way opposed to the facts revealed by morbid anatomy. As regards the question whether tubercle was or was not an inflammatory product, its solution would depend on what was meant by inflammation. If the essential phenomenon of that process consists of an exudation of blood-plasma, as he believed, then tubercle must be considered of inflammatory origin. Tubercle consists of granules and imperfect cells: the products of inflammation are composed of granules and perfect cells. Both are formed by the exudation of blood-plasma. If it undergo transformations into perfect organisms, it constitutes what pathologists have in some cases called the results of inflammation; in others, different kinds of tumours. If these transformations are worsted or rendered imperfect, it forms what has been called tubercle or scrofulous deposits.

It was observed, that as empirical means for accomplishing a cure had notoriously failed, perhaps a study of the method in which nature operates might be more successful. The progressive march of tubercular depositions towards a cure was then minutely described. If when a cavern is formed, the further deposition of fresh tubercle could be checked, its walls unite, or close upon the contents, which undergo various transformations, and thus a cicatrix is produced. These cicatrices present differences according as the cavity is superficial or deep seated. Sometimes no traces of tubercle are found, and they consist of dense fibrous tissue, surrounded by indurated pulmonary parenchyma, rendered dark grey or black by increased pigmentary deposit. More generally hardened tubercle is found, or cretaceous and calcareous concretions, which are frequently surrounded by a cyst. These may remain in the lung without producing irritation, and are sometimes expectorated with the sputa.

It was evident that this process would readily take place, if the pathological causes inducing the disease could be overcome. These were, 1st, A morbid state of the blood, the result of imperfect nutrition; 2d, Local inflammation, by means of which an unhealthy exudation is poured out, that assumes the form of tubercular or scrofulous matter. The imperfect nutrition depended upon, 1st, An excess of oxygen in the system, which combines rapidly with the tissues to produce waste, and to occasion acidity in the alimentary canal; and 2d, An excess of nitrogenised or albuminous, and a deficiency of carbonised or oleaginous matters in the chyle, blood, and tissues generally; the liver, the great emunctory of fatty and carbonised matter, being excepted.

The indications for *Treatment*, therefore, are, 1st, To overcome the dyspepsia and acidity in the alimentary canal; 2d, To furnish the material necessary for the formation of a healthy chyme; and, 3d, To combat the local inflammation.

The dyspepsia and vomiting were often to be relieved by naphtha, when all other remedies had failed. Dr Bennett ascribed the boasted good effects of this remedy to its power in allaying the irritability of the stomach, and thus enabling the patient to take nourishment.

The imperfect nutrition was best to be overcome by an easily-digestible and nutritious diet,—milk, substances abounding in oleaginous rather than albuminous principles, and an equable warm climate, whereby, in conjunction with

the diet, the excess of oxygen in the system may be diminished. In carrying out this second indication, the author strongly recommended cod-liver oil as a most valuable remedy.

The local inflammation must be combated by topical blood-letting, in an early stage; and later, by counter-irritants.

In conclusion, Dr Bennett expressed the hope, that whatever opinion might be held with respect to the value of the indications and treatment proposed, the facts he had brought forward would induce renewed trial, directed to the *curative* rather than the mere palliative treatment now so prevalent.

Two series of preparations were exhibited, one illustrating the gradual transformation of lymph into tubercle in different tissues, the other exhibiting different kinds of cicatrices, with and without cretaceous and calcareous concretions.

Dr Spittal, Dr Andrew, and *Dr George Paterson* mentioned cases in which cod-liver oil had proved of much advantage.

ON THE EMPLOYMENT OF OXYGEN AS A MEANS OF RESUSCITATION IN ASPHYXIA, AND OTHERWISE AS A REMEDIAL AGENT. BY DR G. WILSON.—After some preliminary remarks on the general neglect into which the medical employment of the gases has fallen, *Dr Wilson* stated, that the object of his present communication was to direct the attention of medical men to the recent improvements in the preparation of oxygen, as bringing the latter within their reach as a remedial agent. The ordinary process with chlorate of potass is an inconvenient one, owing to the irregularity and comparative slowness with which the oxygen contained in the salt is evolved; but recent researches have shown, that if a tenth of its weight of certain metallic oxides, such as black oxide of copper, or the black oxide of manganese, be mixed with the chlorate, it gives off its oxygen, when heated, with such rapidity, that some hundred cubic inches may be obtained easily within a few minutes. The author suggested that this process might be advantageously adopted in our public institutions, as a means of supplying oxygen to persons in a state of asphyxia. He assumed, that artificial inflation of the lungs, if properly conducted, would not injure these organs, and that oxygen was much preferable to common air as a resuscitating agent. He recommended that the mixture of chlorate of potass and metallic oxide, should be kept ready made at our hospitals, and other public institutions, where cases of asphyxia come before the medical officers; and as the oxide of copper is objectionable, on the ground of its expense, and that of manganese on the score of its impurity, he preferred the red oxide of iron, which he has ascertained to be equally efficacious in causing the evolution of oxygen from the chlorate, and to be better if taken in the proportion of a fifth than a tenth of the salt. Along with this, the author recommended that suitable retorts of glass or metal, heated in any convenient way, should be furnished for the evolution of the gas, and gas-holders for receiving it. From the latter, the oxygen was to be drawn off by a flexible tube, fitted into the aperture provided for the entrance of air in the bellows used for inflating the lungs, into which it was to be thrown, according to the method at present in use with common air.

The author concluded by a reference to the special applicability of the proposed method to hospital midwifery practice, and stated, that he was engaged at present in researches as to the most convenient shape and size of the retorts and gas-holders, and the best process for collecting and administering the gas, which he hoped to bring to a conclusion very speedily.

DODSON'S PATENT UNFERMENTED BREAD.—The President called the attention of members to some samples of patent bread transmitted to the Society for their inspection, by the patentee, Mr Dodson of London. This bread is "raised," and made perfectly spongy, though prepared without fermentation, by having muriatic acid and bicarbonate of soda mixed in the dough during kneading; the carbonic acid thus given off serving in the place of that evolved by the fermentation in the ordinary process, and enough of common salt being at the same time formed to give sapidity to the bread. This bread thus pre-

pared without fermentation has been found to agree better than ordinary bread with patients liable to acidity of stomach. The President called attention to testimonials given to the patentee by practitioners in London, and solicited from the members a trial of the new bread in dyspeptic cases. Dodson's bread is now manufactured by Mr Tod, Prince's Street, Edinburgh.

Sulphate of Bebeerine.—Dr Douglas Maclagan stated, that Sulphate of Bebeerine, which he formerly brought under the notice of the Society as an anti-periodic and tonic, (vide our volume for 1843, page 685), had been prepared to a considerable amount, and of fine quality, by Mr J. F. Macfarlane of Edinburgh, and could now be had in sufficient quantity to enable practitioners to give it a fair trial as a remedial agent.

Dr M. stated that he had collected a considerable number of cases treated by it, which would appear in the April number of the *Edinburgh Medical and Surgical Journal.* We shall give an abstract of this paper in as early a number as possible after it has appeared in print.

Correction of Report of Meeting of 22nd January,—in a Note to the Editor, from Dr Watson.

To Dr Cormack, 51, Queen Street,
Edinburgh, 12th Feb. 1845.

Dear Sir,—A mistake has been made in the report given in your Journal for this month, of what I said at the meeting of the Medico-Chirurgical Society, held on the 22d of January, on the subject of Hemorrhage, which I will feel obliged by your getting corrected.

The case of Avulsion of the Arm having been read, several members present made remarks on the absence of hemorrhage in such cases; and I am represented to have said, that the want of hemorrhage could not depend on "the formation of a clot, as this took (according to experiments which he had performed) seven days to form in a deligated artery." What I did say was, that the formation of a clot in the extremity of the torn vessel could not be the cause of there being no hemorrhage, as had been conceived by some; for, according to experiments made on the blood, it required at least seven minutes to coagulate, even when at rest. It is therefore obvious, that where large arteries were wounded or torn, if the stoppage of the flow of blood depended on this, the patient would bleed to death before the clot could possibly form.

In the third number of my Surgical Essays, published about a year ago, I explained this subject at length. I therefore send it, along with this, for your perusal, the subject being one of great interest and importance.—Yours truly,

Alexander Watson.

BOOKS RECEIVED.

N. B. Exchange Journals are not publicly acknowledged, as their names would occupy too much space.

(Continued from page 168 of the February Number.)

35. Human Magnetism; its claims to Dispassionate Inquiry, being an attempt to show the utility of its application for the relief of human suffering. By W. Newnham, Esq., M.R.S. Eng. Pp. 432. London: 1845.

36. Practical Observations and Suggestions in Medicine. By Marshall Hall, M.D., F.R.S.S.L. and E., &c. 12mo. Pp. 300. London: 1845.

37. Anatomical and Pathological Observations. By John Goodsir, F.R.S.E., &c.; and Harry D. S. Goodsir, M.W.S., &c. 8vo, *plates.* Pp. 103. Edin.: 1845.

38. Psychopathia Sexualis: auctore Henrico Kaan, Medico Ruthenico et Doctore Medecinæ Vindobonnensi, &c. &c. 8vo. Pp. 124. Lipsiæ: 1844.

39. L'Officine; ou Répertoire Général de Pharmacie Pratique, contenant, &c. Par Dorvault, Pharmacien. 8vo. Pp. 652. Paris: 1844.

Vide p. 291 for an account of this work.

40. Elements of the Comparative Anatomy of the Vertebrate Animals, designed especially for the use of Students. By Rudolph Wagner, M.D.,

Professor of Comparative Anatomy and Physiology in the University of Göttingen, &c. &c. Edited from the German. By Alfred Tulk, M.R.C.S. Eng. 8vo. Pp. 264. London: 1845.

41. On the Remedial Influence of Oxygen, or Vital Air, Nitrous Oxyde, and other Gases, Electricity and Galvanism, in restoring the Healthy Functions of the Principal Organs of the Body, and the Nerves supplying the Respiratory, Digestive, and Muscular Systems. By J. Evans Riadore, M.D., F.L.S., &c. &c. 12mo. Pp. 177. London: 1845.

42. A Treatise on Corns, Bunions, and Diseases of the Nails; and on the General Management of the Feet. By Lewis Durlacher, Surgeon Chiropodist (by special appointment) to the Queen. 8vo. Pp. 196. *Plates.* London: 1845.

43. Essay upon Cretinism and Goitre. By Edward Wells, M.D., late Fellow of New College, Oxford; and Radcliffe's Travelling Fellow. 8vo. Pp. 69. London: 1845.

44. Travels in the East, including a Journey in the Holy Land. By Alphonse de Lamartine. From the French: a new translation for the present Edition, with a Memoir of the Author, and Notes. (*People's Edition.*) 8vo. Pp. 230. Edinburgh: 1845.

45. Letter to the Editor of the London Medical Gazette, in Reply to Certain Statements of Dr Robert Lee in that Journal. By Robert Paterson, M.D., Leith.

46. A Reply to the Malicious Personal Attack of the British and Foreign Medical Review. By E. O. Hocken, M.D. 12mo. Pp. 11. London: 1845.

47. The Anatomist's Vade Mecum: a System of Human Anatomy. By Erasmus Wilson. With 18 illustrations by Bagg. *Third Edition.* 12mo. Pp. 648. London: 1845.

48. Annual Report of the Edinburgh Royal Lunatic Asylum, for the year 1844. 8vo. Pp. 30. Edin.: 1845.

49. A Thermometrical Table on the Scales of Fahrenheit, Centigrade, and Reaumur; comprising the most remarkable phenomena connected with Temperature, in relation to Climatology, Physical Geography, Chemistry, and Physiology. By Alfred S. Taylor, Lecturer on Chemistry, &c. in Guy's Hospital. London: 1845.

Most useful.

50. The American Journal of Insanity, edited by the Officers of the New York State Lunatic Asylum, Utica. No. 3. Utica: January 1845.

"The object of this Journal is to popularize the study of Insanity—to acquaint the general reader with the nature and varieties of this disease, methods of prevention and cure. We also hope to make it useful and interesting to members of the medical and legal professions, and to all engaged in the study of the phenomena of Mind."—*Editor's Notice.*

51. Medical Examiner—to January 1845. Philadelphia: 1844—5.

52. Northern Journal of Medicine, from commencement in May 1844, to March 1845. Edinburgh: 1844—5.

53. Mesmerism True — Mesmerism False: A critical examination of the Facts, Claims, and Pretensions of Animal Magnetism. Edited (written?) by John Forbes, M.D., F.R.S., with an Appendix, containing a Report of two Exhibitions by Alexis. 8vo. Pp. 76. London: 1845.

This will appear as an article in Dr Forbes' April number.

54. The Actual Process of Nutrition and Inflammation in the Living Structure, demonstrated by the Microscope. Part II. (Third Series of Experimental Researches.) By Wm. Addison, F.L.S. 8vo. Pp. 144. London: 1845.

*** *Want of space obliges us to omit, in the meantime, the titles of a number of works which we have received.*

TO CORRESPONDENTS AND READERS.

Besides a number of ORIGINAL ARTICLES, we have been obliged to postpone a Review of works on MESMERISM; and our long promised sequel to the article on OVARIOTOMY, which appeared in our number for January 1844. Both will be given in our May Number, along with various BIBLIOGRAPHICAL NOTICES.

The SECOND EDITION of the MARCH NUMBER is now ready.

Just published, 8vo., cloth, 8s.,

ON DISEASES of the HEART and on ANEURISM: their Diagnosis, Prevention, and Treatment. By J. J. FURNIVALL, M.D., Member of the Royal College of Physicians in London, &c.

London: JOHN CHURCHILL, Princes Street, Soho.

Just published, post 8vo., cloth, 9s.,

HUMAN MAGNETISM; its Claims to Dispassionate Inquiry. Being an Attempt to show the Utility of its Application for the Relief of Human Suffering. By W. NEWNHAM, Esq., M.R.S.L.

London: JOHN CHURCHILL, Princes Street, Soho.

Just published, with plates, 8vo., cloth, 4s.,

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London: JOHN CHURCHILL, Princes Street, Soho.

Just published, with Annotations and Additions, by the Right Hon. the Earl STANHOPE, Second Edition, post 8vo, cloth, 10s. 6d.,

THE ANATOMY of SLEEP. By EDWARD BINNS, M.D., Fellow of the Society of Antiquaries of Scotland, &c.

London: JOHN CHURCHILL, Princes Street, Soho.

Just published, 8vo, cloth, 5s.,

ON TUMOURS; their General NATURE and TREATMENT. By GEORGE MACILWAIN, Consulting Surgeon to the Finsbury Dispensary, &c.

London: JOHN CHURCHILL, Princes Street, Soho.

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London: JOHN CHURCHILL, Princes Street, Soho.

Just published, 8vo, cloth, 10s. 6d.,

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PART FIRST.

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ARTICLE I.—*Surgical Cases and Observations. By* JAMES SYME, ESQ., *Professor of Clinical Surgery in the University of Edinburgh, and Surgeon to the Queen.*

NO. XXVI.—AMPUTATION AT THE KNEE.

THERE are few operations in surgery which have excited so much discussion, or afforded room for the exercise of so much ingenuity, as amputation of the thigh. The danger immediately attending its performance, and the inconvenience of its imperfect result in rendering the stump uncomfortable, have suggested various contrivances and modifications of procedure, with the effect certainly of restraining the hemorrhage, diminishing the patient's suffering, and promoting union of the wound. But the stern evidence of hospital statistics still shows, that the average frequency of death is not less than from 50 to 70 per cent., while it cannot be denied that many of the survivors suffer from uneasiness connected with protrusion of the bone. Having from an early period of my practice devoted much attention to the subject of amputation,—having seen the circular incision give place to the flap operation'—and having witnessed the results of these methods variously modified, in the hands of many surgeons possessing every degree of operative skill, I am at length led to the conclusion, that there is something radically wrong in the principle of the operation. This error I believe to be, dividing the thigh-bone through its shaft instead of the condyles or trochanters. But before attempting to establish the advantage of operating upon the latter principle, it may be proper to enquire how far the operation so conducted would attain the objects for which its performance is required.

The most frequent occasion for amputation of the thigh is afford-

ed by diseases of the knee-joint. Next to this may be ranked compound fractures of the leg and thigh; and then, tumours growing from the bones of the leg and thigh. Now, in regard to diseases of the knee-joint, it is well ascertained, that the warrant for amputation lies in the bone, and not in the soft parts, which, however much altered through scrofulous degeneration or suppuration, readily admit of restoration to their natural condition, as is clearly shown by what happens after excision of the elbow, or amputation at the ankle-joint. In so far, therefore, as removal of the disease is concerned, it is plain that amputation through the condyles of the thigh-bone would in this case prove sufficient. As to compound fractures of the leg, it will be admitted that if the integuments and muscles admit of the limb being removed at the middle, or lower third of the thigh, they cannot present any obstacle to a few inches more of the bone being preserved, while similar injuries of the thigh obviously require amputation at the trochanters. The same observation will apply to tumours of the bones, those of the tibia and fibula not requiring any more of the thigh-bone to be removed than may be suggested by convenience, and those of the thigh-bone itself demanding the highest practicable point of section. From this analysis it appears that taking merely the morbid condition into account, all the cases admitting of amputation at or below the middle of the thigh-bone, would admit of the operation being performed through the condyles.

In proceeding to consider the relative advantages and disadvantages of amputating through the shaft and condyles of the thigh-bone, it may in the first place be remarked, that this, the largest member of the skeleton, contains the most extensive medullary cavity, and possesses the thickest mass of dense osseous tissue. Dense bone dies more readily than that of a spongy or cancellated structure; and the action of a saw, to say nothing of ruffling the periosteum, must always be apt to cause exfoliation, which by impeding union of the soft parts, delays union, and opposes its perfect completion, by increasing the scope afforded to contraction of the muscles. It would, however, be a narrow view to suppose that the direct effect of local injury is alone concerned in causing death of the bone after amputation; and there can be no doubt that inflammation of the medullary membrane may co-operate, if it does not sometimes act exclusively in its production. The most conclusive evidence in support of this opinion, is presented by those conical-shaped exfoliations, extending up the interior of the bone, sometimes to the length of several inches, which are occasionally extracted from stumps. One of these in my possession, taken from the humerus, is five inches long. And I believe the thigh-bone would be more fruitful of such exfoliations if amputation through it were not so fatal. But if the medullary membrane be liable to inflammation, suppuration of its texture, and inflammation of the veins cannot fail to be the frequent consequence,

especially in hospitals, where, notwithstanding every precaution, certain descriptions of injuries will always be apt to excite phlebitis, and other forms of spreading inflammation. But when the bone is divided through the condyles, nothing more than the epyphisis being concerned, the medullary membrane is not at all disturbed, while the cancellated texture is not liable to exfoliate, either from its proneness to die from injury, or through inflammation of any other texture. It may, therefore, be expected, that the operation would prove less fatal, than when performed in the usual way; and that the stump would be less apt to prove imperfect, through protrusion of the bone. These expectations derive encouragement from the results of amputation at the ankle-joint, to which I was led by similar considerations. Of twelve cases in my own practice, and in nearly as many more in that of other practitioners, who have been induced to adopt it, this operation has not in a single instance been followed by either death of the patient, or exfoliation of the bone; and so far from selecting favourable cases for the purpose, I have repeatedly removed the foot, in circumstances where I should have declined amputating the leg as altogether desperate. But the two following cases more directly support the expediency of an operation which I venture to recommend, as a not less safe and advantageous substitute for amputation through the shaft of the thigh-bone, than amputation at the ankle is now found to be for removing the leg below the knee.

Case 1. *Disease of the Knee-Joint—Amputation at the Knee—Recovery.*—Peter Patterson, aged 21, from Orkney, was admitted on the 29th of January 1844. He stated that his left knee had been occasionally painful during the five preceding years, and at length so much so, as to render the limb nearly useless for the last twelve months. The joint, which from the commencement of his complaint had been somewhat enlarged, during this latter period of its duration had become much increased in size, and greatly contracted. Blisters, and other ordinary means, had been employed without any permanent advantage. On examination, the leg was found so contracted that it could not be extended beyond a right angle with the thigh, which was much emaciated. The tibia and thigh-bone admitted of motion in a lateral direction; and there was a large abscess pointing on each side of the ligament of the patella. No improvement followed evacuation of the matter. On the contrary, the local uneasiness increased, and the general health declined. It was therefore resolved to amputate the limb, which, influenced by the considerations above explained, I did in the following manner, on the 2d of March.

Having applied a tourniquet, so as to compress the femoral artery where it enters the popliteal space, I made an incision across the knee on a line with the upper edge of the patella,—then pushed the knife from one side to the other under the joint,—cut a

flap from the calf of the leg,—and finally sawed through the condyles of the thigh-bone, so as to remove the whole articulating surface, which was ulcerated and carious.

On bringing the edges of the wound together, I found the flaps were scarcely sufficiently long, as they required a little stretching to meet, and when stitched appeared more tense than is usually consistent with adhesive union. It was therefore with considerable surprise, and no less pleasure, that we saw the healing process proceed without retraction of the covering from the bone. The edges of the *skin* indeed separated from each other to the extent of nearly two inches, but the subjacent textures remained adherent, until the superficial sore gradually contracted and cicatrized. The recovery, though thus rendered slow, was ultimately completed, and the patient returned to his distant home on the 31st of May.

The result of this case tended to confirm the expectations that had been previously formed with regard to the advantage of amputating through the cancellated extremity instead of the shaft of the thigh-bone, since there could be no doubt that exfoliation of the surface to any extent, however small, would have been attended with separation of the flaps and projection of the bone.

Case 2. *Disease of the Knee-Joint—Amputation at the Knee—Recovery.*—Jane Marshall, aged 22, was admitted on the 20th December, on account of disease in the left knee. It admitted of hardly any motion, was very painful, and over the patella exhibited two small openings which admitted a probe to pass into the joint. She had been suffering from this complaint nearly three years, in the course of which the frequently repeated application of moxa and various other means were said to have failed in affording any relief. After her admission the symptoms obstinately increased,—at length preventing sleep, destroying appetite, and threatening, before long, to prove fatal. In these circumstances it was resolved to amputate the limb on the 6th of March.

Profiting by former experience, I on this occasion made the anterior semilunar incision on a line with the *lower* edge of the patella, and had the integuments retracted before cutting into the joint above this bone. In other respects the operation was conducted as the first one had been, and when the edges of the wound were approximated, they came easily together, presenting a proper degree of fulness, without any straining or tension. The union was nearly completed by the first intention without any local or constitutional disturbance; the flaps, instead of showing any tendency to retraction, rather becoming more full and soft; and the patient presenting the aspect of one who had sustained some trivial injury, rather than undergone a capital operation. On the 14th day she was sitting by the fire, and took the dressings off without any assistance.

This case should, I think, remove any doubt that may have ex-

isted as to the safety of amputating at the knee, and consequently as to the expediency of doing so with a view to avert the danger of operating through the shaft of the thigh bone. It is upon this ground that I wish to found the operation, and therefore I have said nothing of some other advantages which might be mentioned, —such as the greater length of stump which, especially in females, must be desirable for the sake of appearance, and may, perhaps be made available for using a support admitting of flexion at the knee, —or the facility afforded to employing the tourniquet, which causes serious embarrassment in removing the limb at any higher point. Some surgeons have objected to the tourniquet, that it may be managed, or rather mismanaged, so as to increase instead of restraining the hemorrhage. But any inconvenience from this source may be easily prevented by ordinary attention,—while on the other hand it is certainly desirable to obtain a sure command over the circulation, not liable to be disturbed through fatigue of the fingers effecting manual compression, or involuntary movements of the patient, and which leaves the principal assistant at liberty to tie the vessels. I may add, that there has long seemed to me considerable reason for suspecting, that pressure in the groin is not altogether free from risk of causing inflammation of the vein, when there is a predisposition to such derangement, since I have repeatedly witnessed the marks of inflammatory action in such cases, solely, or chiefly in the inguinal region, when examination was instituted after death. I am persuaded also that the patient's sufferings will be diminished by amputating at the knee; and that the operation would prove less disagreeable to the surgeon than the one in common use.

I may here remark, that the posterior flap must be made very long, and indeed to the full extent of the fleshy part of the gastrocnemii muscles,—care being taken, however, to avoid preserving more than a moderate portion in regard to thickness.

AMPUTATION AT THE ANKLE.

In former communications I have endeavoured to establish the general utility of amputation at the ankle, by showing the successful application of this operation to the relief of different morbid conditions, for which removal of the leg has been hitherto thought necessary. Caries of the astragalus and os calcis, and of the ankle-joint itself; destruction of the whole foot, except the heel, through exposure to cold; and compound dislocation of the astragalus, by the effects of external violence, threatening to prove fatal by continued suppuration, have all been remedied in this way. With the same view, I will now relate two cases of a different kind which have lately occurred.

Erectile tumour of the foot in an infant five months old—Amputation at the ankle—Recovery.—I was asked by Dr Charles Bell to

see this little patient. At the time of birth there was a considerable growth of the erectile character occupying the anterior part of the foot, which did not enlarge much during the first two or three months, but afterwards increased very rapidly, so as at length to destroy all trace of the ordinary form, and convert the foot into an unshapely tumour, of a purple colour. As the integuments of the heel remained sound, it seemed practicable to remove the disease by disarticulation at the ankle-joint. And as a very slight extension of the swelling, by preventing this measure, would have left no alternative but amputation of the leg, I advised against farther delay, notwithstanding the want of any precedent for performing so serious an operation at an age so early.

On the 15th of January I removed the foot in the usual manner, with exception of not taking away the malleolar processes. The child did not suffer the slightest constitutional disturbance; and the wound healed almost entirely by the first intention. Mr Goodsir has given me the following account of the tumour.

"A fine injection of size and vermilion having been thrown into the arteries of the foot, the skin assumed a red tint, except where it was so attenuated as to display the peculiar bluish colour of the subjacent diseased mass.

"It was then cut longitudinally into two portions. A gush of venous blood reduced its size very considerably. By means of a gentle stream of water, the rest of the contained blood was washed out, all pressure being avoided.

"The two halves were then laid in a basin of spirit, and by means of a syringe, that fluid was forced into the diseased mass, so as to distend the whole almost to its original size.

"After having been hardened, fresh longitudinal sections were made, avoiding all pressure, and the structure was examined.

"The venæ saphenæ, plantar and posterior tibial veins are much enlarged, and have undergone a peculiar change, which consists of increased bulk of the fibrous fasciculi of their coats; and of longitudinal and oblique foldings of the parietes, due, partly to the fasciculation, partly to actual involution.

"About the centre of the foot, the veins break up into the general cellular arrangement which constitutes the disease; the saphenæ forming a sort of central cavity on the dorsum; the plantar a much larger cavity or central areola in the sole of the foot.

"The diseased mass itself consists of areolæ which decrease in size, from the central venous cavities, to the surface of the skin, and to the deep limits of the disease: these limits being defined by the internal membrane of the venous system, which is continuous through all the areolæ.

"The diseased mass has not displaced the surrounding textures, but has caused them to disappear before it, as in certain malignant growths and ulcerations,—bone, ligament, muscle, and fat, having equally failed in resisting its progress, the skin alone standing out

against its advance, and along with the venous membrane forming the limit of its superficial portion.

"The areolæ of which the mass consists are elongated from the central cavities towards the limits of the disease, being more elongated the nearer they are to the centres. The peculiar form of the areolæ is due to the radiated direction of the bars and imperfect laminæ which separate them, these being thicker, stronger, more elongated, and more separated from one another around the central cavities, than near the circumference, where they are shorter, finer, and much more numerous.

"The bars and imperfect laminæ consist of fibrous texture exactly resembling that of the tendinous ligaments, and aponeuroses with numerous germinal centres.

"The bars and laminæ are all covered, and consequently the contained areolæ lined by a fine membrane consisting of tesselated epithelium, and continuous with the lining membrane of the venous system, at the central cavities, or diseased terminations of the saphenæ and plantar veins.

"In many of the bars and laminæ, small arteries are situated, and one of these was traced nearly to the termination of the anterior tibial on the back of the foot. It was not ascertained how the arteries terminated, but it was presumed that they passed by small oblique orifices into the venous areolæ, as the curling arteries of the human placenta pass into the venous areolæ of the decidua.

"JOHN GOODSIR."

Ulcer of the Heel with disease of the Os Calcis—Amputation at the Ankle—Recovery.—Thomas Niven, aged 36, fourteen years ago fell into a coal pit, and alighting on the heel of his left foot, sustained a great shock of the whole limb. It ever afterwards felt weak and impaired in sensibility, and also became thinner than the other one. But his principal complaint was a sore on the heel, which allowed a probe to pass into the substance of the bone, and on this account he was admitted into the hospital three years after the injury, when, thinking that the limb might recover its vigour in time, if relieved from the local imperfection, I exposed the tuberosity of the os calcis, and sawed off all the part of it which seemed to be diseased. The wound healed, and he was dismissed with the prospect of being soon quite well.

He returned the 15th of August last, complaining of a sore in the old situation still exposing the bone, and also of another confined to the integument over the trochanter major, which had given him little trouble, while the former rendered him quite unable to work, or make any exertion for his support. In other respects the limb remained as has been already mentioned, and excited some apprehension that even the complete removal of the local disease would not afford relief. But as the patient was

extremely anxious to have anything done that promised a chance of benefit, I resolved to amputate the foot.

I performed the operation on the 19th of August, carefully preserving the integuments that remained sound on each side of the heel, so as to compensate for the great loss of substance in the sole of the foot, and thus formed two lateral flaps, which met together very well over the ends of the bones, after the malleolar processes, with a thin connecting slice of the tibia, had been sawed off. The wound healed soundly without trouble or delay; the sore near the hip also cicatrised; and the patient was dismissed on the 27th of September.

The two following cases do not present any features materially different from those which have been noticed in former communications, and may therefore be merely mentioned as confirming what has been already stated with regard to the success attending amputation at the ankle for Caries,—the morbid condition most frequently requiring the operation, and for which I regret to learn that amputation of the leg is still in use. Prejudice, and established habit, are doubtless great obstacles to improvement, but should not be permitted to maintain what has been proved to be an unnecessary mutilation. Perhaps the damages that might not improperly be awarded by a jury for the loss of a limb under such circumstances, would most effectually hasten the reformation which must before long be accomplished.

Caries of the Astragalus and Os Calcis—Amputation at the Ankle—Recovery.—Peter Anderson, aged 22, from Forfarshire, was admitted on the 17th of December last, on account of a disease in his foot, which had existed for fifteen months, in consequence of falling from a height upon the heel, and for twelve months had prevented him from following his employment as a mill-wright. I amputated the foot at the ankle on the 15th of January, and he was dismissed with an excellent stump on the 27th of March.

Caries of the Tarsus and Ankle-Joint—Amputation at the Ankle—Recovery.—John Christie, aged 14, from Fife, was admitted on the 21st of January, on account of an extensive disease in the bones of his foot, which had existed two years. I amputated the foot at the ankle on the 5th of February; and the patient was dismissed with an excellent stump on the 30th of March.

ARTICLE II.—*Observations on the Mechanism and Diagnostic Value of the Friction Vibrations perceived by the Ear, and by the Touch, in Peritonitis. By* ROBERT SPITTAL, M.D., F.R.S.E., *lately one of the Physicians to the Royal Infirmary of Edinburgh.*

(Read before the Med.-Chir. Society of Edinburgh, 5th February 1845.*)*

FRICTION signs in the early stages of Peritonitis have, during the last ten years, occupied the attention of several authors. They have not, however, been phenomena of frequent observation—probably from their having been rarely sought for; it may be remarked that M. Piorry, in his recent work, "*De Pathologie Iatrique ou Médicale*,[1] states, that Messrs Barth and Roger, whose researches in auscultation are well known, had never met with them, nor had he himself been more fortunate—a circumstance sufficiently remarkable when we consider the ample field for observation enjoyed by these gentlemen, to whom medical science is indebted for much that is of the highest value connected with the diagnosis of diseases by sound.

The first notice of the friction indications in Peritonitis occurs in the work of M. Piorry, *De la Percussion Médiate*, &c.,[2] in which the author remarks, that Laennec was of opinion that "recent inflammation of the peritoneum gives rise, on the movements of the patient, to a sound like to that of parchment which is crumpled;" and in his more recent work, he reiterates a similar statement.[3] This observation, which is not to be found in the works of Laennec, M. Piorry became acquainted with at the Clinique of the latter, thus affording one proof more of the extraordinary comprehensiveness of mind, and unwearied powers of research, of the great discoverer of auscultation.[4] In June 1834, M. Désprez communicated to the Anatomical Society of Paris, "some details in regard to the auscultation of the abdomen in Peritonitis. He thought that in the early periods of the disease, and before any liquid effusion had occurred, a leather creaking, or sound of friction, analogous

[1] Paris 1841, p. 304. [2] Paris 1828, p. 174. [3] Op. cit. p. 304.

[4] In an interesting communication which I had recently the honour of receiving from M. Piorry, he informs me,—"Ce n'est pas dans un livre, c'est à la clinique de Laënnec que j'ai appris que cet illustre observateur avait appliqué au diagnostic de la péritonite son admirable découverte. Il avait dit en effet à qui avait voulu l'entendre que dans des cas ou les surfaces contigues de la séreuse abdominale exercaient des mouvemens l'une sur l'autre, et alors quelles étaient le siége d'exsudations plastiques inégales et rugueuses, on entendait un bruit de frottement tres marqué. Il est évident que cette proposition contient tous les élémens de ce qui a été fait depuis sur ce sujet. Cest avec une véritable satisfaction que j'ai vu ma note rendre à *Laennec* ce qui appartient à *Laennec*, car j'ai publié mon ouvrage et par consequent j'ai fait la citation dont il s' agit bien avant tous les travaux sur ce sujet. Il m'eut été facile de parler du fait sans en indiquer la source; mais j'ai laissé à d'autres le soin d'en agir ainsi. Ma citation prouvera j'espére que personne plus que l'auteur de la plessimétrie n'a rendu justice à Laennec, dont il s' honore d'avoir été l'elève."—Paris, le 20 Fevrier 1845.

to that of pericarditis, could be heard." And at a subsequent meeting of the same Society, he "presented a large coagulum of blood, which had caused complete obliteration of the vena portæ, in a subject who had sunk under ascites. The spleen was large, and the vena cava inferior presented at many points small osseous concretions in the form of thin micaceous plates, which, by their sharp and curved edges, bent towards the concavity of the vessel, had raised the internal membrane of the vein. It was in this patient that M. Désprez heard the *bruit de cuir* in the commencement of recent peritonitis, following tapping for ascites, and of which traces were still to be found."[1] Meagre as are the details of this case, I have thought it worthy of quotation, as the earliest on record, in which the friction indication had been noticed in connection with peritonitis.

The first observations in this country were published by Dr Beatty in September 1834.[2] These were succeeded by the more ample details communicated by Dr Bright in 1835;[3] and in the two following years appeared the able critical analysis of previous observations by Drs Corrigan,[4] and Stokes.[5] The latest researches on this subject appear to have been made by M. Désprez, to whom I have previously alluded, and who made the peritoneal friction indications the subject of his inaugural dissertation.[6] Other writers have noticed the phenomena about to be considered; but the above appear to be the only authors who have recorded original observations: to these I now add the two following cases, which seem to embrace and elucidate points of interest either not hitherto known, or insufficiently considered.

Case of Phthisis Pulmonalis, Complicated with Bronchitis and Peritonitis.—A— P—, aged 31, a tailor, labouring under incipient phthisis, was admitted into the Royal Infirmary of Edinburgh on the 14th of July 1841, where he remained till the 2d of November, when he left the hospital, somewhat relieved from the more urgent symptoms of his disease. In *five* days, however, he again presented himself, in consequence of an aggravation of his complaints, and he was accordingly readmitted into one of the wards then under my superintendence.

It is not my intention to go over all the details of the case, which do not equally bear on the object of this communication; suffice it to say, that attended by the ordinary symptoms and physical indications of phthisis and severe bronchitis, the case continued

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[1] Arch. Gén. de Méd., Bull. de la Soc. Anatom., T. v. Paris (June and July) 1834.
[2] Dublin Med. Jour. vi. p. 146. [3] Med.-Chir. Trans. xix. p. 176, London.
[4] Dublin Med. Jour. ix. p. 392, 1836.
[5] Diag. and Treat. of Diseases of Chest, p. 146, Dublin 1837.
[6] Traité Pratique d'Auscultation, &c. Barth and Roger, p. 514, Paris 1844.—I regret that after repeated attempts I have been unable to obtain M. Désprez' essay.

evidently progressing rapidly towards an unfavourable termination.

On the 21*st of January* 1842, he became affected with a subacute attack of *peritonitis*. He complained of pain, increased on pressure, across the abdomen, which symptom, with acceleration of the pulse, continued more or less till the 10th of February, when the following was the condition of the patient. The abdomen was somewhat tumid, occasionally tense and tympanitic, and fluctuation was distinctly perceptible at the most dependent parts. He complained of pain, generally over the abdomen, increased on pressure, and especially so in the epigastrium ; there was also pain in the loins on the motion of the trunk, or on pressure there. The bowels were freely moved after medicine ; the urine was said to be scanty, but its quantity could not be ascertained, its sp. gr. was 1030, it was not coagulable by heat or nitric acid; pulse 88, of tolerable strength; skin about normal heat; tongue slightly furred and rather dry; much thirst and impaired appetite. At this time the cough, which had been severe and the breathing difficult, and more thoracic than usual, were somewhat easier, and the expectoration, which sometimes reached ℥xx, in twenty-four hours, amounted only to ℥v, of a tenacious, greyish-yellow mucus. After cupping the loins, and leeching to the abdomen, the pain in both these regions was diminished, although by no means removed. He had suffered from a severe twisting pain in the abdomen occurring in paroxysms several times during the previous night.

On the 12*th Feb.* after free motion of the bowels, he felt considerable relief to the abdominal pain, which was now manifest chiefly on pressure in the umbilical region.

On the 14*th*, he had constant pain in the left hypochondrium, increased on pressure, and sometimes exceedingly severe. Percussion there was tympanitic. The pain in the umbilical region had now almost disappeared after leeching ; and on the 16th, after the same means applied to the hypochondrium, the pain of the abdomen was still less. The urine was reported to have increased in quantity, but could not be measured.

On the 17*th*, the fluctuation was observed to have diminished, while the tympanitic distention had increased, and in the morning the abdomen was tense and hard ; about mid-day, however, it had become more flaccid, and considerably reduced in size. *In the upper part of the abdomen, and especially in the umbilical region, a continued, gentle rustling, or soft jerking, rubbing sound, was heard on the application of the ear or stethoscope, varying in intensity, and frequently mixed with borborygmi.* He still complained of general uneasiness in the abdomen, increased on pressure, particularly in the umbilical region, and his thighs were drawn up towards the abdomen, which position, he stated, gave him relief. The pulse was 88, and of good strength.

On the 19*th*, the abdominal pain and swelling still continued, along with general tympanitis ; but on lying on either side, dulness

upon percussion, and fluctuation were perceptible in the most dependent parts. *The rustling sound had rather diminished in intensity in the umbilical region, but was still distinctly heard generally over the abdomen, and at some parts very loud. To the touch there was a peculiar sensation, giving the idea of a continued soft creeping, or gentle vibration, under the fingers. These indications were not perceived where the fluctuation was felt; but on the patient lying on the opposite side, so as to admit of the removal of the fluid by gravitation, and the peritoneal surfaces to come in contact, they became perceptible.* The pulse was 92, and soft.

On the 21*st*, there was very little pain of the abdomen; the distention had diminished, and the stroke-sound was less tympanitic. As he lay upon his back, slightly inclined to the left side, there was an obscure sense of fluctuation across the abdomen, but very distinct in the depending side. *No rustling sound nor tactile vibration could now be perceived, and very few borborygmi, and the respiration was more abdominal than hitherto.* The pulse was 92, and of improved strength.

On the 23*d*, the stroke-sound of the abdomen generally, was duller, except at the uppermost fourth of the abdomen, when lying on his right side, where the sound was clear, and an *occasional slight degree of rustling was heard, and about the edges of the left false ribs a more prolonged sound, similar in character, but louder and synchronous with inspiration and expiration, was perceived.* The patient died about 10 P.M. of the same evening. As a point of the history of the case bearing upon the peritoneal complication, it is proper to add, that previous to his admission into the hospital, the patient became affected with an inguinal hernia of the left side, which proved a great source of annoyance to him, during his severe and protracted illness. He attributed it to the severity of the cough, and, during the latter part of his career, the hernia had very much increased in size from the same cause.

Examination of the body was made about 40 hours after death. *Thorax.*—The upper parts of both lungs contained a considerable quantity of tubercular matter in different stages, together with a few small cavities. In the right the tubercles were of a blackish colour,—emphysema was present in the anterior edges of both lungs.

Abdomen.—Upwards of four quarts of a greenish, clear, serous fluid were found in the peritoneal sac, containing, in the most dependent portions of the cavity particularly, numerous small shreds of lymph. On many points of its surface, the peritoneum of the intestines and mesentery, was covered with a thin, soft, easily separable, brownish-yellow layer of lymph; but generally speaking, it was free from this. The peritoneum, especially that portion lining the anterior and upper part of the abdominal parietes, was slightly injected with blood, and this was also observed in several points on the peritoneum of the intestines, although in a slighter degree. The *liver* was generally of a dark purple hue and more

evidently granular than usual; some of the granules being pale, but most of a dark colour. It was about the normal size; the *kidneys* appeared healthy, and no other morbid conditions were observed.

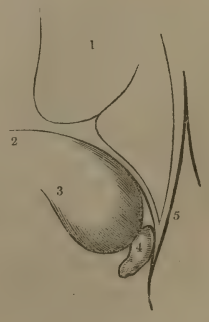
In the case just read, I have, for the sake of brevity, omitted the details of a therapeutic nature generally; and very much curtailed those concerning the pathology of the chest, it being my wish to submit to the Society that portion of the case relating to the peritonitic complication.

Through the kindness of Dr Bennett, I am enabled to add the following notes of a case which recently came under his notice in the Royal Infirmary. The patient, A—— M——, a labourer, aged 40, admitted into the hospital on the 19th December 1844, stated that about five weeks ago, he became affected with considerable pain in the left hypochondriac region, extending to the other side, and from thence generally over the chest, accompanied by dyspnœa, cough, and expectoration. On admission he complained of a "*pricking* or *sticking*" pain in the left lower lateral region of the thorax, with cough and muco-purulent expectoration. On the 21st he felt easier, but still complained of lancinating pain in the lower part of the left side of the chest, increased by pressure and by coughing. His sputa were muco-purulent and frothy. *In the region of the chest complained of, a rubbing sound was now heard, and towards the lowermost portion of that region, the sound ceased to be perceived.*

On the 22d, there was acute pain immediately under the left false ribs anteriorly, increased on deep inspiration and on pressure, and he could not bear percussion thereon. *On listening with the stethoscope, a very loud, double friction sound, of a leather-creaking character, synchronous with inspiration and expiration, was heard.* The patient died on the morning of the 23d.

Examination of the body. Dec. 24.—Chest.—Slight tubercular disease existed at the apex of both lungs, with some old firm adhesions between the pleuræ.

Abdomen.—Between the left lateral and anterior portion of the diaphragm, the upper part of the spleen, and great extremity of the stomach, a small space or cavity, was found, as in the accompanying diagram,[1] containing about ℥i of pus. The surfaces of the diaphragm, spleen, and stomach, to the extent to which they contributed to form the cavity, were coated with a recent layer of lymph, and united together by the same means. On the surface of the spleen there was a depression, which might have admitted the point of the little finger, also coated with lymph.



[1] Explanation of Diagram.—1. Lung, 2. Diaphragm, 3. Stomach, 4. Spleen, 5. Cavity, in a line with figure.

This case possesses peculiar interest from the great difficulty which it presented in the diagnosis, owing to the site of the peritonitis giving to the affection so much the physical characters of dry pleurisy, as perhaps, scarcely to have been distinguished from it by the most careful examination.

In the following table, the principal facts, bearing upon the diagnosis of peritonitis by the friction indications, have been collated as shortly as possible, from all the cases on record, so far as my research has gone.

TABLE OF CASES OF PERITONITIS, IN WHICH FRICTION VIBRATIONS HAVE BEEN PERCEIVED.

No.	Authors.	No.	Tumour or not.	Condition of Peritoneum, &c.	Tactile Vibrations.	Audible Vibrations.	Mechanism.
I.	Desprez. June and July 1834.	1	Spleen considerably enlarged.	Traces of recent peritonitis.		Bruit de cuir ou de frottement.	
II.	Beatty. Sept. 1834.	1	A hard unyielding ovarian tumour filled abdomen from pubes to sternum.	Recovery — inflammatory indications subsided, and with them the friction signs.	Sensation of a grating, or rubbing together of two uneven and rather dry surfaces.	Loud and distinct frottement.	Most evident by full inspiration, causing abdominal parietes to move more freely over the surface of the tumour.
III.	Do.	2	Great inflammatory enlargement of spleen.	Recovery —friction signs ceased on inflammation being arrested.	A creaking sensation.	A creaking sensation.	Same as above (?)
IV.	Bright. 1835.	1	Large fungoid, lobulated, soft, and spongy tumour, attached to stomach, and descending to pelvis.	*Died July* 30.—Strong adhesions between peritoneum of parietes and tumour—latter slightly attached to viscera by recent adhesions.	A kind of crepitus.—*July* 8.		
V.	Do.	2	Large, irregular, semi-solid ovarian tumour.	*Died* 31*st Dec.*—Parietes of abdomen adhered generally to tumour.	A slight crepitus, or like the crackling feel of new leather.—*Feb.* 24.		By making the parietes of abdomen move gently.
VI.	Do.	3	A soft, uneven, and spongy tumefaction, supposed during life to be a mass of serum and fibrine. No organic tumour.	*Died Nov.* 22, 1834.—Parietes of abdomen universally adhered to the intestines by organized cellular membrane.	A kind of crepitus - *July* 25, 1830.—continuing for some time.		Upon pressure.
VII.	Do.	4	Liver small and irregular—right lobe had a hard semi-cartilaginous coating.	*Died June* 1834.—Colon and omentum adhered to parietes of abdomen.	Slight sensation of crepitation over liver and omentum. *April* 1832.—Indistinct after 2 or 3 days.		
VIII.	Do.	—	Peritoneum covered with miliary tubercles.	Recent adhesions between intestines and parietes.	Crepitation.		
IX.	Do.	7	A solid substance at umbilicus; and above, the thickened omentum formed a resisting mass.	*Died June* 12.—No *post mortem* examination.	Sensation as when finger or hand is rubbed over a damp pane of glass, or other damp polished surface. *May* 4.—Crepitus. *May* 7.—Crepitus like deep-seated emphysema, rather than crackling of leather. *May* 18. Soft crepitus over lateral part of abdomen on both sides. *May* 21.—Soft crepitus below navel. *June* 1.		By placing the hand firmly on one side of the abdomen, as the mass of intestines was made to move by gently pressing with the other hand on the opposite side. —*May* 4. On pressure.—*May* 7.

No.	Authors.	No.	Tumour or not.	Condition of Peritoneum, &c.	Tactile Vibrations.	Audible Vibrations.	Mechanism.
X.	Hutchison. 1835.		Enlargement and induration of the omentum, mesenteric glands, spleen, and pancreas, and thickening of colon.	Adhesions of parietes and diaphragm to liver, omentum, arch of colon, and small intestines; the latter adhered to one another.	Crepitus *six weeks before death.*		
XI.	Corrigan. 1836.		Large irregular, medullary, ovarian tumour.	*Died Oct.* 16.—Parietes opposite tumour covered with rather firm, rough, spongy lymph—no adhesions.	A creaking sensation, resembling the creaking of new leather, (*June*) till death, with varying intensity.		By pressing the abdomen with the hand in situation of tumour.
XII.	Stokes. 1837.	1	Inflammatory tumefaction of liver.	Recovery, with cessation of the signs.		Intense friction sound over hepatic tumour.	On deep inspiration.
XIII.	Do.	2	Inflammatory tumefaction of left lobe of liver.	Recovery, with cessation of the signs.	Intense friction signs of descent and ascent over tumour.	Intense friction signs of descent and ascent over tumour.	On taking a deep inspiration, and depressing the diaphragm.
XIV.	Author.		Sub-acute peritonitis—no tumour.	*Died Feb.* 23.—Peritoneum partially covered with a thin layer of recent lymph, and slightly injected with blood. No adhesions.	A continued creeping sensation, or gentle vibration under the hand.—*Feb.* 19.	A continued gentle rustling or jerking rubbing sound.—*Feb.* 19.	By the intestinal peristaltic motion.
						Occasional slight degree of soft crumpling sound.—*Feb.* 23.	By do
						A prolonged sound, similar in character, but louder, about cartilages of left false ribs.—*Feb.* 23.	By respiratory movements; the sound being double, and synchronous with inspiration and expiration.
XV.	Bennett.		Surfaces of a portion of the diaphragm, stomach, and spleen.	Peritoneum of affected parts covered with a recent layer of lymph partially uniting these organs.		Double friction sound of a leather creaking character.	By respiratory movements—sound synchronous with the inspiration and expiration.

In the *second column* have been placed the *names of the authors*, with the dates of the publication of their observations; and in the *third*, the *number of the case* as it occurs in the works from which I have quoted, that easy reference may be made to the observations themselves. In the *fourth column* have been recorded the facts in regard to the *existence or not of an abdominal tumour*; and as this is a point which seems to have stood in the way of more extended research, it will, perhaps, be useful to analyse the observations on this subject still further.

Out of the *fifteen* cases in the table, *a large abdominal tumour* existed in *four;* the *liver*, or at least the peritoneal surface of this organ, had been *inflamed* in *four;* the *spleen*, or its surface, *inflamed* in *two*, probably in *three*—but the particulars of M. Désprez' case are not given—and *enlarged* in *two;* the omentum alone, *thickened* in *one;* the *omentum* and *intestines thickened* in *one;* a

soft, uneven, spongy tumour, probably from serum and fibrine, in *one; miliary tubercles* covered the peritoneum in *one;* and simple recent peritonitis, with a *partial, thin, soft, coating of lymph* was observed in *one*. So that, from these cases, it appears that a *true organic tumour* had only been present in a *minority*. If, however, those in which either the *liver or spleen* was affected, and which no doubt presented an analogous physical condition, be included, then a *majority* of the cases may be said to have had *one at least of the inflamed peritoneal surfaces adherent to a solid resisting body;* which circumstance, we agree with Dr. Stokes in considering favourable to the development of the friction vibrations,[1] although not necessary for the production of the latter, as was first pointed out by Dr. Corrigan;[2] but which is still more clearly proved by the case (No. 14) I have had the honour of reading, which was, so far as the peritonitis is concerned, less complicated in its character than any other in the table.

In the *fifth column*, the facts having reference to the *state of the peritoneal surfaces*, and whether *adhesions existed or not*, have been stated, from which it appears, that of the *fifteen* cases, after deducting *four* in which recovery took place, and *one*, the details of which are imperfect, *adhesion of the peritoneal surfaces* occurred in *seven*. But to show of how little value this evidence is in favour of the suggestion, that the friction vibrations are diagnostic of the existence of adhesions, it may be remarked, that of these *seven* cases, the *post-mortem examination* of *one* took place *upwards of four years* after these indications had been perceived; *one* nearly *two years* after this; *one* about *ten months; one six weeks;* and *one twenty-two days*. In *one* case only did the patient die within *twenty-four hours* after the perception of the friction signs; so that, with this exception, the evidence of all the *seven* cases, in which adhesions had occurred, is insufficient to prove, that, although adhesions were found on dissection, they were present at the time when the friction vibrations were perceived. Dr Bright's observations as a whole, rather tend to an opposite conclusion—though, in some instances, his diagnostic remarks are stated in a hesitating manner[3]—and it is to Dr Corrigan that we are indebted for first proving the unsoundness of this doctrine, and pointing out the importance of his views in practice.[4] The latter author, however, appears to me to adopt this opinion too exclusively when he not only says, that "this sign (friction indication) is not necessarily connected with the existence of adhesion, *but so long as the creak continues to be felt, adhesions are not formed.*"[5] This is a point open for investigation, and, in the absence of all proof, we may be permitted to doubt the accuracy of the remark, especially when we consider the facts which present themselves in regard to adhesions

[1] Op. cit. p. 476. [2] Dublin Medical Journal, v. ix, p. 397.
[3] Op. cit. p. 177. [4] Op. cit. p. 397-400. [5] Op. cit. p. 400.

of the serous surfaces after inflammation. It is not always that we find these surfaces so universally and intimately united as to impede all motion reciprocally of the one upon the other, though it may be very much limited. But this we know does occur, as well in the case of the pericardium and pleura, as in the peritoneum; and in such instances, we should not expect the development of any friction vibration. On the other hand, when the adhesions are much interrupted by spaces without any union, although coated with lymph, it is evident that friction motion may occur by one or other of the mechanical causes to be afterwards noticed. And even, although the adhesions be general, and the adherent spaces few and small, still the yielding nature of the soft, recent lymph, it appears to me, might be sufficient to allow of the physical conditions proper for the production of the friction vibration,—for a time, at least, before it had intimately united the surfaces together,—it may be however of diminished intensity. The amount of motion necessary for the production of the friction sound, seems to be very limited, if we may judge from the simple experiment of bending *two* portions of dry and somewhat stiff leather—*not necessarily new* —closely applied to one another; or, by very gently rubbing the glazed surfaces of thinner leather together. In both instances, the degree of motion of the one upon the other is very trifling, and, in the first case, hardly perceptible, and yet the creaking vibrations are distinctly enough perceived. This seems also apparent from Dr Corrigan's experiment, in which he found that by "squeezing" two peritoneal surfaces covered with a layer of tolerably dense and spongy lymph, a creaking could be produced.[1] Different degrees of motion, however, may be necessary in the different modifications of the friction vibration; and the less dense, and thick the layer of lymph, and the more elastic the subjacent organs, probably the greater will be the amount of motion required for their production.

From the *sixth column* in the table, it appears that almost every author who has made original observations on this subject, has recorded the peculiar *vibratory indications perceived by the sense of touch over the part affected;* and this, no doubt, has arisen from the necessity of manual examination of the abdomen leading so directly to their detection. The character of the sensations has been very differently described, even in the same case, at different periods of the inflammation; so much so, indeed, as to render it more than probable that the various physical conditions of the serous surfaces had given rise to corresponding modifications of this peculiar sen-

[1] Op. cit. p. 397. As has been remarked, there is little doubt that the honeycombed appearance of the recent lymph, so often seen in pericarditis, and which has also been observed on other serous surfaces, as the pleura, and peritoneum covering the liver, (Bright, Op. cit. p. 202), is the result of motion between these surfaces while the adhesions are soft and extensible. And so long as there is motion between the surfaces, there may be sound.

sation; and further observation may yet enable us to connect each species of friction vibration with a certain physical condition of the peritoneal surfaces. At all events, enough has been recorded to encourage us in pursuing this investigation, with the view, if possible, of rendering our diagnosis more minute than hitherto, that we may not only be enabled to detect the part affected, but the precise condition of the serous membrane, so that all remedial measures may be applied at the most favourable periods.

The sounds perceived either along with the tactile vibrations, or unaccompanied by them, and contained in the *seventh column*, are by no means so numerous as could have been wished for. Few as they are, however, they exhibit, as their identity of origin would have led us to expect, the same variations in character, as the tactile sensations, and so exact is the resemblance, and so much does the one indication suggest the other, that, in most instances, the same terms have been employed to describe them. It must not be supposed, that wherever a blank occurs in this column, no sound had been present in the corresponding cases; for any friction vibration perceptible to the touch, must have been distinctly perceptible to the ear, had the observation been made for the purpose of detecting it. On the other hand, a friction vibration sufficiently strong to give rise to audible friction phenomena, may not be perceptible to the sense of touch. And we have no hesitation in agreeing with Dr Corrigan, that, in cases where the friction vibration "*may be indistinct to the sense of touch, the stethoscope is of great use in detecting it*," . . . . . and that it "*may be heard loud to the ear while it is dull to the finger.*"[1] *From which we may draw the practical inference, that in an obscure case, the absence of all tactile vibration should present the strongest reason for minute auricular examination.*

From the terms used to describe the vibrations perceived by the touch, it appears, that these sensations varied in intensity from a *soft creeping, or gentle vibration, under the hand; or a sensation like that of the finger rubbed over a damp pane of glass;* to those of a more intense kind, described by the terms, "*creaking*," "*crepitus*," and "*grating*." The accompanying sounds varied in the same manner from a "*gentle rustling*," to a "*loud friction*," *and a sound of* "*creaking*." Judging from the descriptions, as contained in the table, the more intense friction vibrations, both of touch and hearing, must have possessed considerable analogy, although, no doubt, differing in intensity, as well as in character; but the observations on this point have been so limited, as to leave us very much in a state of mere conjecture as to how far the views of Drs Stokes,[2] Bouillaud,[3] Williams,[4] and others, in regard to the connection between the peculiar character and intensity of the friction

[1] Op. cit. p. 393, 394. [2] Dublin Journal of Medical and Chemical Science, v. iv. p. 56, 57, 1833. [3] Maladies du Cœur, v. i. p. 457, &c. Paris, 1835. [4] Path. and Diag. of Diseases of Chest, p. 236. London, 1840.

sounds, and the physical conditions of the serous membrane in pericarditis, may be applicable in peritonitis. They have hardly been proved in the former, and therefore we may suspend our judgment of them in regard to the latter. Unlike the cardiac apparatus in pericarditis, the abdominal organs differ very much in their physical characters, especially as to density and resistance; and therefore the same amount of inflammatory alteration of the serous surface over a solid organ, as the liver, the spleen, or an organic tumour, although sufficient to produce intense friction indications, might give rise, over the soft elastic stomach or intestines, to a greatly diminished degree of friction vibration. And should subsequent observation enable us to refer the different indications, described by the terms formerly noticed, to peculiar states of the serous membranes, our judgment ought always to be qualified by the consideration as to the solidity or non-solidity of the subjacent parts. Whether or not the specific peculiarities of the friction vibrations, apart from intensity, may yet be proved to depend upon the state of the serous surfaces, at different periods of the disease, at all events it will have been observed, that in those cases, in which the more harsh friction vibrations occurred, there existed a *rough, or more or less dense and rough, or rough and resisting condition of the parts*. In the *fourteenth* case, on the contrary, in which simple subacute peritonitis was present, the vibrations both by the touch and by hearing, were so soft and gentle, as almost from this alone, to enable us to conclude that *no solid or otherwise indurated organ was at all concerned in their production, but that the intestines, distended with gas, as they were known to be, and probably only thinly covered with a very soft layer of lymph, alone gave rise to the indications under consideration*. But when we come to investigate the mechanism of the friction phenomena, this will be rendered sufficiently evident. The first report in the 9th case in the table, appears to corroborate these remarks; and, so far as it goes, this case possesses considerable interest, as presenting the only example on record, that I am aware of, in which the *progress of the inflammatory alterations are apparently pointed out by the friction vibrations, communicated to the sense of touch*, although wanting the evidence of post-mortem examination. The friction indications, in this instance, from having been at first very *soft and gentle*, became more *intense;* and, towards the termination of the case, somewhat *softer;* either as *adhesions formed, or as the roughness of the surfaces disappeared;* and had the patient lived, at last to disappear, as in the cases recorded by Dr Stokes.[1]

The immediate cause of the vibratory sensations, is the rubbing together of two peritoneal surfaces, physically altered in various ways; and in order to prove this by experiment, Dr Corrigan, by artificial

[1] Op. cit. M. Piorry has expressed it as his opinion, that when the peritoneum is covered with miliary granulations or other accidental productions, we are likely to hear special sounds. *Vide* p. 414, Traité de Diagnostic. Paris, 1837.

friction of one portion of peritoneum, which had suffered from inflammation, and was covered with lymph, upon another in the same condition, produced several of the indications described. It was easy, he informs us, to produce the "ordinary frottement," or friction sound, but he was only occasionally successful in producing the "new-leather creak;"[1] an observation of some interest, as pointing out how variations, probably in the mode of rubbing, or the degree of pressure exerted, may modify the character of the indications, and showing the necessity of farther inquiry.[2] That the peritoneal friction indications, however, may occur at a still earlier stage of the inflammatory process, before there is any effusion of lymph, and at a period when the serous surface is simply drier than usual, from a deficiency of its ordinary secretion, is a circumstance of great probability. M. Collin alludes to this state of the serous membrane as a cause of sound in pericarditis,[3] and Professor Andral admits "the suspension of the secretion of a part as one of the earliest effects of irritation, the secretion subsequently becoming either more abundant or modified in its character."[4] And if two comparatively dry peritoneal surfaces, as in the following experiment, be rubbed together, a friction sound is the result. A small portion of intestine was distended with air, and its serous surface dried by wiping off the serous moisture with a soft towel, which was also done to a portion of the serous surface of the abdominal parietes. The portion of intestine was then gently rubbed upon the latter, to which the stethoscope had been applied, when a distinct soft friction vibration was at once perceptible, very much like the "gentle rustling" which was perceived in the 14th case in the table. It was also observed that the drier the surfaces of the membrane, and the greater the degree of pressure exerted during the friction, the louder was the sound produced. Further evidence, however, is required before we can safely deduce any thing practically useful from these observations. But to this conclusion at least we may fairly come, that whatever be the state of the peritoneum, whether covered by lymph or not, the less moistened it is, and the greater the amount of motion of the one surface upon the other, the more intense will be the friction vibrations. On the other hand, diminution in the amount of the motion, and increase of lubrication of the surfaces by a liquid effusion, and the more oily in its character this is, the less intensely the friction indications will be perceived.[5]

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[1] Op. cit. p. 397. [2] Whether or not the indications described by the term "Crepitation," may at all result from the separation of lymph-covered, serous surfaces, on pressure or otherwise, subsequent observation may determine. Certain it is, that a sound of a crepitating kind occurs during the act of separation of parts, in a similar physical condition to the peritoneum so affected, and nearly free from serous effusion.

[3] De la Poitrine, p. 116. Paris, 1824. [4] Precis d'Anatomie Pathologique, p. 312. t. 1. Paris 1829.

[5] In the "Gazette des Hôpitaux," 14th December 1844, M. Marchal, in some observations, "de la *crépitation douloureuse des tendons*," which he denominates "*téno-*

So much for the immediate cause of the phenomena, but we have still to consider shortly the *peculiar mechanism by which such friction motion is produced*, and here it may be remarked that although we have to deal in this instance with a serous sac, analogous to the pleura and pericardium; still, in the case of the peritoneum, it is evident that there exist certain peculiarities, bearing upon the mechanism of the friction vibrations, of a more complex character than in either of the two cavities mentioned. In the pleuræ, for example, there is simply the motion of ascent and descent by which the surfaces are made to rub upon one another during respiration; and in the same manner the systole and diastole of the heart produce analogous motions of the two pericardial surfaces. In the case before us, however, there is not only the motion of the diaphragm and abdominal muscles during respiration,—restrained though it generally is—by which to a certain extent one portion of the peritoneum, especially at the upper part of the abdomen, is made to move upon another; but there likewise exists, probably at all times, except when paralysed by want of nervous energy, or by mechanical obstruction, *the peristaltic motion of the stomach and intestines*, by which it is evident that a movement of the one portion of the peritoneal surface upon another must be constantly taking place.

The mechanical cause of the friction indications is recorded in ten cases, as quoted in the *eighth column* of the table. In *six* it was the *motions of respiration*, that is to say, the *movements of the diaphragm and abdominal muscles;* and the vibrations were chiefly or most intensely developed during inspiration, and especially when this was deeply performed, so that the diaphragm was *manifestly* depressed; from which we are entitled to draw the practical deduction, *that the friction indications might by this act become developed, although absent during ordinary diaphragmatic movements.* In all these cases the inflamed peritoneum was connected with a solid resisting medium; and even in the fourteenth case, the vibrations, from the movements of respiration, occurred at the left false ribs, where this portion of the thorax not only presents similar physical conditions as to solidity, but where all motion, from depression of the diaphragm, must always be most evident. In *five* cases, *pressure with the hand on the abdominal parietes*, with or without the application of the ear or stethoscope at the same time, was the mode adopted

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synovite, (inflammation de la queue des tendons)" has the following remarks:—"En effet, la synoviale tendineuse n'est elle pas analogue à une séreuse, et le propre de l'inflammation d'une séreuse, n'est il pas, d'une part, de diminuer ou même d'arrêter l'exhalation dans les premiers moments, et d'autre part, de faire perdre à la membrane son poli? Etant données ces deux circonstances, la perte du poli et la sécheresse, rien de plus facile à comprendre que la crépitation. Le frottement pleural, le frottement péricardique, le frottement péritonéal, la crépitation propre à la poche synoviale prerotulienne inflammée et celle qui nous occupe, sont un seul et même phénomène,—à part le siége." For this notice, which was communicated to me since my paper was written, I am indebted to M. Piorry.

to elicit the friction vibrations. Of these a large abdominal tumour existed in *two*. In *one case alone* (No. 14) *were the phenomena perceived to arise spontaneously, and without being in the least indebted to the respiratory movements or to artificial pressure, but entirely resulting from the peristaltic motion of the intestines.*

All who have attempted to describe sounds and sensations of touch by words, have felt the difficulty of conveying an accurate idea of these perceptions. And this is an unquestionable barrier in the way of any attempt to prove—especially to those who may be altogether unacquainted with the character of the indications under consideration,—that the friction sensations perceived in the fourteenth case were purely the result of peristaltic motion. On this point I have not the smallest doubt, and to say that the peculiar character and rhythm of the friction vibrations as perceived in that case, afforded the most conceivably perfect representation that the senses of hearing and touch could receive, of the very remarkable vermicular motion belonging to the intestines, is to state nothing more than what seemed to be one of the simplest and safest acts of deduction from the facts observed. Without some acquaintance, however, with the peristaltic motion from observation in the lower animals, greater difficulty might have presented itself, and even this ought to have been diminished by the recollection of the descriptions given of the intestinal motions, which I have nowhere found so scientifically described as in the *Dictionnaire des Sciences Médicales*, by M. Piorry;[1] and the most concise and graphic account I have met with in the English language, is perhaps that of Dr Charleton, published in 1680, which is as follows:—"The manner of this subtle and complex motion may be conceiv'd from an inspection of the gutts of an animal newly kill'd, and opened while some reliques of the vital heat are yet remaining in them. For one shall see the gutts variously shortening, wrigling, and wresting themselves like a heap of earth worms, crawling some over others, and striving as it were to creep upward and downward by turns, but without a directing faculty."[2] Notwithstanding this impossibility of conveying by words all that was suggested to the mind on making the observations contained in the fourteenth case, still careful examination and analysis of the reports, which were made at the bed-side of the patient, I hope will enable those who are interested in this matter, to satisfy themselves, that the vibratory indications mentioned, could alone have been produced by the peristaltic motion of the intestines; and if this be not admitted, then no other apparent cause remains to which they can be attributed. My object in detailing all the circumstances, however trifling, connected with the peristaltic mechanism of the friction vibra-

[1] Art. Peristaltique, Paris, 1819.

[2] Enquiries into Human Nature, &c., by Walter Charleton, M.D., p. 98, 4to, Lond. 1680.

tions, is to point out the probable improvement in our diagnosis from a knowledge of this cause of the friction phenomena, which sooner or later may be turned to account in practice.[1]

MM. Barth and Roger, probably following Dr Désprez, recognise the respiratory acts as the cause of the friction indications, but do not make mention either of artificial pressure, or of the peristaltic motion as causes of these. I will not, however, be so rash as assert that they are unknown to Dr Désprez, the results of whose observations these authors nevertheless seem to give. I have not met with an account of any case similar to that which I have had the honour of communicating to the Society. (No. 14.) And the only author who notices the motions of the intestines as a cause of the friction vibrations, so far as my research has gone, is Dr Franz Zehetmayer of Vienna, who says, if the "surfaces of the serous membranes have lost their smoothness by lymphatic effusion, then a rubbing sound arises analogous to what is heard in the pleura or pericardium, only that in the abdomen is of course much weaker, in consequence of the *gentle motion of the intestines*, and the elastic or yielding nature of the parietes, which are not favourable to the origin of a more intense degree of friction."[2] Dr Zehetmayer's remarks appear to be nearly a condensed translation of the observations of Messrs Barth and Roger, who, as I have said, do not mention the peristaltic motion of the bowels as a cause of the friction vibrations; but whether or not the former author means this species of motion, or simply the passive motion of the intestines, consequent upon the movement of the diaphragm and

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[1] That any peculiarity in the motion of the stomach, or great and small intestines, imparting a difference of character to the borborygmi, produced in these different parts, may, when the friction indications are present, enable us to detect the portion of the digestive canal affected, is perhaps not improbable.

The following continuation of M. Piorry's communication formerly quoted is interesting. He says,—"Du reste, je l'avoue, j'ai tiré fort peu de partie des bruits du péritoine recueillé par la stéthoscopie, dans la phlegmasie de la séreuse abdominale. Je crains même qu'on ait confondu avec les bruits certains frottemens que l'on entend lors des mouvemens inspirateurs, dans l'abdomen et qui sont les conséquences de l'abaissement du diaphragme qui pousse les visceres par en bas. Ces derniers résultats (les bruits dont il s'agit) s'entendent dans l'état normal; le murmure en question est très fin, très distinct des borborygmes, très différens aussi du bruit que fait entendre le tœnia, bruit que j'ai signalé dans mon quatrième volume de Médecine Pratique, (angibromopathies.) Dans ce dernier il n'y a pas d'isochronisme avec les mouvemens de respiration; il est constitué par une série de sons saccadés et véritablement vermiculaire. . . . Pour moi dans l'état actuel de la science, les principaux signes physiques dans l'affection précédente, (peritonitis) sont la matité plessimétrique des épanchemens; la circonscription et la détermination du lieu ou elle existe; le dégré de cette matité en rapport avec la profondeur de la couche du liquide; le déplacement de celui-ci dans diverses positions, &c. &c."

It may here be observed that it is important that the vibrations, sometimes perceptible to the touch, accompanying borborygmi, be not mistaken for the peritoneal friction vibrations. The former want the accompanying rubbing sound of the latter, and are attended by loud sounds, tolerably well described by the term *borborygmi* used to designate such sonorous indications, especially if the voice be raised as the word is pronounced.

[2] Grundzüge der Percussion und Auscultation, &c. p. 104. Wien 1843.

abdominal muscles, his statement, which is very short, and without details, is insufficient to enable me to form a decided opinion. Of the value of the facts connected with the friction vibrations, it may be remarked, in conclusion, that they appear to have placed within our power an additional method of detecting the existence of an important and frequently fatal disease, often obscure by the ordinary modes of investigation, whether from peculiarity of idiosyncrasy, or from the co-existence of cerebral complication, by which pain, and its characteristic results, with reference to the position of the patient, and to the respiratory movements, may have ceased to guide the physician in his diagnosis. In such cases the physical signs, known to be independent of any such influences, may be found to present perhaps the only safe indications by which to form our opinion as to the nature and extent of the disease.

The following are the chief conclusions which may be drawn from the previous observations :—

That the mechanism by which the friction vibrations are produced is of three kinds, viz.

1. The respiratory movements,—of the diaphragm chiefly,—but also the action of the abdominal muscles. The vibrations being synchronous with these movements, though sometimes only developed during inspiration.

2. Artificial movement of the parts by pressure with the hand or otherwise. The vibrations corresponding in their rhythm to the movement produced.

3. The peristaltic motion of the intestinal canal,—imparting to the vibrations a peculiar, continued rustling, and creeping character to the ear and hand, corresponding to the vermicular motion of the intestines.

That the immediate cause of the friction vibrations is the rubbing together of two peritoneal surfaces, physically altered by the inflammatory process ; and although the effusion of lymph has been considered necessary for their production, it appears highly probable that at a prior stage of the inflammation, when the peritoneum is merely drier than usual, friction vibrations may take place.

That the more the surfaces are moistened, the less intense will be the friction vibrations ; and when a liquid effusion is sufficient to separate the surfaces, the vibrations will cease altogether at the part ; but by altering the position of the patient, so as to enable the liquid to gravitate to some other part, and thus bring the surfaces together again, the friction vibrations will be renewed, as in Case 14.

That the amount of motion between the inflamed surfaces, necessary for the production of the friction vibration, is very limited ; and that different modes of friction, as to rapidity and degrees of pressure, may not only modify the intensity, but also the tone and quality of the vibrations.

That the present state of our knowledge does not permit us to connect any particular species of vibration with a certain physical condition of the peritoneum, although reasonable grounds exist for this expectation.

That although the friction vibrations are no evidence of the existence of adhesions between the peritoneal surfaces, it has not been proved, that in the case of partial adhesions,—and even when the adhesions are general, provided the effused lymph be recent, soft, and extensible,—an amount of motion sufficient to produce the friction vibrations might not occur.

That the respiratory abdominal friction vibrations are chiefly manifested at the upper part of the abdominal cavity, where its more solid contents are situated, and in the case of a large organic tumour,—and may be regarded as indicative of the inflammation existing over a solid organ or tumour.

That the indications from artificial movement of the parts have been perceived, both where tumours were present, and where the intestines alone, or along with the omentum, were the site of the inflammation.

That the peristaltic friction vibrations indicate that the peritoneum investing the corresponding portion of the intestinal tube is the part affected.

That wherever the peristaltic vibrations are *very distinctly perceived*, they may be regarded as indicative of a lively and free motion of the folds of intestine upon one another, and upon the parietes; and of few or no adhesions existing between them. At all events, it shows that the intestines are not generally adherent, nor matted together into an adherent mass, nor, to any great extent, adherent to the abdominal parietes.

That in cases of peritoneal inflammation in the upper portions of the abdomen simulating pleuritis—as in Case 15—the presence of *any degree* of the peristaltic friction vibration might very much assist us in the diagnosis.

Article III.—*Case of Horny Excrescence from the Leg of an Old Woman. By* Robert Turner, M.D., &c., *Keith.*

(Read before the Medico-Chirurgical Society of Edinburgh, November 6, 1844.[1])

Isobel Wilson, aged 77, of a feeble habit, ill fed, and inattentive to cleanliness, has had a scaly eruption on the anterior and inner parts of both legs for many years. In the winter of 1838, while climbing at her *peat stack*, the support under her gave way, and falling, she sustained a slight wound of the left leg, over the inner aspect of the tibia, about its middle. This bled rather profusely,

[1] Vide p. 157 of this volume.

and occasioned some pain, but, according to the patient's statement, corroborated by her daughter, it healed completely in a week or ten days. A few months after, a pointed wart-like body began to grow from the situation of the now cicatrized wound, gradually increasing, until, when I saw it the year following, it had attained the size of a field-bean. At this time it had a dingy white colour, with the exception of the apex, which was brown, and of the consistence of horn. Its connections appeared to be entirely superficial, as it could be twisted freely about, or bent so that its unattached extremity touched the limb in any direction. The patient, however, expressing herself averse to its being interfered with, and as it caused little, if any, inconvenience, I did not urge its removal. Some weeks after, as I was informed, it dropped off of its own accord.

The eruption continued on the legs, when I first saw the case, and resembled the *psoriasis guttata* of Dr Good.

The verucous body, on falling off, exposed a small granulating sore, on which another excrescence was gradually formed. Within three years it attained a considerable size, being 4 inches in length, and $7\frac{1}{2}$ lines its greatest diameter at the base.

It is of much harder texture than the first growth, and bears a remarkable resemblance to the horns of some of the lower animals, in having a transversely laminated structure, being bent spirally throughout, and twisted on itself at its apex. This second formation,[1] like the other, became spontaneously separated from the limb, with which it was connected only by the cuticle around its base,—the concave surface within having been occupied by a soft, fibrous cushion, growing from the superficial ulcer above described, but wholly unattached to the horn. For, when the disunion at the circumference had advanced a certain way, the excrescence could be lifted off the structure underneath, and such an inspection obtained as to render it evident that the two surfaces had been simply in apposition. Indeed the latter, in its progress, had obviously pushed off the horn.

This residuary structure, as I saw it in September last, was considerably larger than when first uncovered—its greatest diameter being 19, and its smallest 14 lines; whilst that of the horn, at its base, measures only $7\frac{1}{2}$ lines at its greatest, and 4 lines at its smallest diameter. At the same period, the former had an irregular fungoid appearance above, not unlike macerated integument, interspersed with small fiery granulations, and was much more indurated below, than when previously examined. The discharge from it was so scanty, as scarcely to stain the dressings, but imparted to the finger a highly offensive odour, not easily removed. The patient has frequently experienced a feeling like formication, and of late has been more than once roused from sleep by severe, lancinating pains, in this situation.

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[1] It was exhibited to the Society; and is now in Dr Cormack's museum.

Apprehensive that any attempt to extirpate this morbid growth, considering the woman's state of health and her advanced age, must rank as the *nimiâ medici diligentiâ*, I have confined myself to palliative measures.

An account of a similar horny excrescence to that described above, was read to the Royal Medical and Chirurgical Society of London, by Mr Erasmus Wilson in January 1844. According to the abstract of his paper contained in the *Medical Gazette*, (Feb. 2, 1844) it is the opinion of that gentleman, that these remarkable formations result from an excess of calcareous matter in the secretion of the sebaceous glands, accumulating in the cells on the internal surface of these follicles, and becoming gradually extruded from their mouths and desiccated;—to which view, as applied to all cases of calcareous tumour, it may be objected, that it does not embrace an element not unfrequently entering into the pathological condition in which these growths originate. In not a few of the cases on record, the horn coexisted with one or other of the skin diseases comprehended under the order *Squamæ*, or with the allied affection *Ichthyosis*,—constituting with this last the *Ichthyiosis cornigera* of Mason Good. The enfeebled or perverted action of the vessels of the chorion, on which these scaly affections depend, must, therefore, also be taken into account in all speculations of a general nature respecting the origin of the horny excrescence.

Moreover, the condition of the sebaceous organs referred to being indispensable to the production of horn, may reasonably be doubted. The slight connection of this body with the subjacent tissues, as well as other circumstances in the history of the case just detailed, appear to favour a different conclusion. Besides, if the sebaceous follicles were the exclusive seat of this affection, we might expect to find it existing most frequently in situations where the former are most abundant,—a condition which, in so far as the examples recorded enable us to judge, does not hold.

In the instance above described, the irritation from external injury, superinduced on a condition of the dermoid secernents producing psoriasis, seems to have been all that was necessary for establishing the morbid action of which the horny excrescence was the product.

The above case, like Mr Wilson's, is confirmatory of Dr Bateman's observation, that the affection is most common in women of advanced age.[1]

[1] Practical Synopsis of Cutaneous Diseases, edited by Dr A. T. Thomson, 1836. p. 384.

PART SECOND.

REVIEWS.

Mesmerism in 1845.[1]

"Our life is twofold: Sleep hath its own world,
A boundary between the things misnamed
Death and existence: Sleep hath its own world,
And a wide dream of wild reality,
And dreams— . . .
Pass like spirits of the past; they speak
Like Sibyls of the future: they have power,
The tyranny of pleasure and of pain,
They make us what we were not,—what they will,
And shake us with the vision that's gone by
The dread of vanished shadows,—ARE THEY SO?"—BYRON.

"WE should lay aside all prejudice connected either with the origin, name, or injudicious exposition of MESMERISM, and try the subject wholly and impartially on its own merits." So says the Rev. Chauncy Hare Townshend in his *Facts in Mesmerism*, the most able work, by far, of some fifteen or twenty which have appeared on the subject; and it is in the spirit which he inculcates, that we enter upon our present inquiry.

We are far from thinking, that because a vast mass of error has been proved to be connected with any subject, there must, on that account, necessarily be in it no truth. As medical men, whose science is on all sides surrounded by quackery and imposture, we will be the last to admit such a principle. On the contrary, we believe that the very existence of a great amount of error in connexion with a given subject is a proof that it possesses, to a greater or less extent, a substratum of reality and truth. Homœopathy can point to its dietetics, and to its avoidance of the too prevalent system of drugging: Hydropathy to the value of cleanliness, cold water, and perspirations; St John Long to the importance of counter-irritation; and Morrison's pills to the advantage of occasional purgation,—as the basis of truth on which the huge masses of imposture and folly connected with these subjects have been reared. On the other hand, those sciences which are considered the most fixed and accurate, have passed through mysteries and absurdities as gross as any of those appertaining to mesmerism. Astrology and alchemy preceded astronomy and chemistry; intolerance and persecution were once considered the best supports to religion; and even in our own day, the suicidal system of exclusion and monopoly in commercial affairs is just giving way, before more correct views on the interests and intercourse of nations. Our whole social condition, especially in matters relating to criminal and hygienic subjects, is involved in as gross errors as any that are cherished by the ultra-mesmerists. Undismayed, therefore, by the exaggerations and absurdities of the mesmeric platform and the mesmeric drawing-room, which have repelled so many of our brethren,—and in the hope that beneath all this error we shall discover some truth,—enter upon our task.

We agree with many of the writers on mesmerism, that the subject has lately become too important, to be put aside with a word or gesture of contempt.

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[1] For a list of the works referred to, see the end of this Article.

The subject which Laplace and Cuvier treated with respect, demands the candid consideration of all men, and if, as the opponents of mesmerism assert, the science (?) received its death-blow from the French Academy in 1784,—the very fact that it is still, so long after suffering this *coup-de-grace*, alive and vigorous, shows that there must be a principle of vitality about it, difficult to be quenched. The Rev. Mr Townshend is a man of great eloquence and genius; Miss Martineau has been distinguished as a bold, acute, and logical reasoner; the repute of Dr Elliotson's works in Medical Science, and his high standing in the profession are undoubted. When such individuals are found actively advocating any doctrine, it cannot be stifled, and it ought not to be sneered down. Facts are stated in abundance, and illustrations of the mesmeric power innumerable are given by persons, whose known high moral character compels us to trust in their sincerity, relating to the curative influence of this agent. Under these circumstances we say that, as medical men, we are not justified in refusing to examine carefully into the subject, but that, however deterred by its tediousness or disgusted by the foul imposture amid which it is enveloped, it is our duty to investigate its claims with diligence and candour.

We are accused, not only by writers on mesmerism, but by a large portion of the intelligent public, of improperly neglecting this investigation, and whether the charge be true or false, it is highly desirable for the preservation of that confidence between the public and the profession, which is necessary for the well-being of both, that the charge should cease to be heard. The public will not be satisfied with a blind bigoted denial of all the mesmeric assertions, nor will the cry "humbug and collusion" answer, except where "humbug and collusion" shall be proved to exist. A more intelligent opposition to mesmerism than this, if opposition be decided on, is now demanded from us by the public. It is true that the charges brought against our profession are not very consistently supported. Mr Townshend, for example, speaks in his second page of "the Galens of our days," who, "instead of wisely taking it under their own patronage and into their own hands, have treated it with a desperation of hostility, as if, were it allowed to flourish, their glory was tarnished, and their occupation gone." Yet the same author, in pages 32, 33, says "the discoverer of mesmerism was a physician, and its extraordinary curative powers have usually placed it in medical hands, so that of the *existing works upon it, there are few that are not written by members of the medical profession*, and fewer still that do not bear immediate reference to the treatment of maladies." The writer further goes on, accounting for the narrow range of the popular interest on the subject of mesmerism, from the circumstance, that *medical men alone have written upon it.* "There is something also in medical details which is peculiarly quenching to the imagination, and consequently distasteful to the man of letters and refinement. It is not, then, extraordinary that mesmerism treated medically, should have been restricted to a narrow sphere; but is this the fault of mesmerism itself? Surely not. On no subject is it less permitted to

'Give up to party what's meant for mankind.'

The doors of the temple should be thrown widely open to the world," &c.

Whether consistently supported or not, however, the charge against medical men is very generally made by mesmeric writers, and so universally echoed by the public as to demand attention. That the subject has been much avoided by the profession in general, there can be little doubt; and any one who considers the trouble and annoyance consequent on its investigation will see sufficient reasons for this.

Those who have exhibited the mesmeric trance must be divided into the *true* and the *tricky*.

Of the true, the majority consists of persons of a highly sensitive nervous system, who have generally exhibited hysteria under one form or other. That some of them are really put into "the sleep," and exhibit convulsions, &c., is certain; that a small number may be somnambulists and ecstatics is highly

probable; and that a large proportion of delicate and hysteric girls, after straining their eyes into the eyes of a handsome man like La Fontaine, may on closing them believe they are dreaming, we have no doubt. The waking feelings of a hysteric girl in bad health are themselves dreams, and doubtless, many of them on closing their eyes, believe they are in some abnormal condition. These are the true.

But with respect to the rogues, who, doubtless, form the grand majority of those exhibited;—a Clairvoyant or Phreno-mesmeric subject is exhibited on a platform, or in a drawing-room, before twenty or thirty spectators; a medical man of the party sees and wishes to expose what he believes to be deceit: how is he met? By the indignation of the mesmeriser at the doubts insinuated of his honesty, supported by appeals to the audience in favour of the unconscious boy, or interesting young lady in "the sleep!" Should this not of itself be sufficient to place the critic *hors de combat*, the love of the marvellous, which, in all popular assemblies, predominates over the simple, the credible, the rational, is certain to ensure for him a shower of hisses. If, biding his time, he enquire into the real condition of those mesmerisees, whose manifestations were perfectly satisfactory to a large and respectable audience, he finds all kinds of difficulties beset his path. He is *morally* certain of the deceit of some or all of the parties,—but how obtain *legal* proof? If he subject the "cataleptic" or "somnambulistic" patient to the epileptic query of the thumb-nail, he is assailed with cries of "Savage!" or Miss Martineau characterizes his heart as "cold and hard indeed." If he threaten the supposed tricky "clairvoyant" with justice, and thus attempt to wring a confession from him, he is accused of using unfair means to arrive at truth; he is decried as coarsely and "unphilosophically" interrogating "nature;" and his investigation and his evidence are at once set aside by the mesmerists. But in a case *where mesmeric trick exists*, we cannot see how it is to be discovered, except by one of these two methods, either by the trickster being frightened from his roguery by pain, or terrified out of it by fear of judicial punishment. Anatomical and physiological proofs afforded by the actions of the deceiver, are only cognisable by those informed in those sciences; Miss Martineau and the public, cannot estimate, and will not admit them. The crime is not like that of stealing a horse, or committing a forgery, in which evidence afforded by circumstances or individuals can be procured, so as to bring home conviction to the criminal; unless *he confess*, it is impossible to make his fraud clear to the world. Yet any one will see that the difficulty of inducing a knave of this kind to confess by any other means than coercion amounts to absolute impossibility; and that coercion itself, unless judiciously applied, must almost always fail. Hence flourishes the cause of the mesmeric platform and drawing-room *séance*; and hence also, the unwillingness of medical men to enter into an investigation in which much, at least, of what they enquire into, they suspect to be trick. But granting that the mesmerisee is proved to be tricking, nay, that he confesses his roguery; even then it is difficult to bring before the world substantial legal proof of the fact. Mesmeric tricksters are a sly and wary set. It is very difficult to get them to a *séance*, if they suspect that there is to be any close investigation; and when there, forsooth, if they see any suspicion, "*l'atmosphère d'incrédulité*" prevents the display of the "manifestations." For all mesmeric authors assert, that the presence of a suspicious person prevents the operation of the mesmeric influence !!!

But if it be difficult to get the guilty parties assembled, it is quite as difficult to induce individuals of respectability, (except medical men, whose evidence again is always considered by the public as tainted,) to be present. It is astonishing how unwilling clergymen, and generally, all men of standing and character are to be present at any mesmeric exhibition, where they may be called on to witness the discovery of imposture. We have known the same parties, who would willingly go to gape and wonder at the exhibition of a mesmeric rogue, excuse themselves from being present when that rogue was to be exposed. They "did not like to commit themselves." Thus the unhappy wight who entered upon his attempt at exposing imposture, finds himself foiled, either from the wariness of the deceiver or from lack of evidence. Though

mesmerisers are content with very little evidence to prove that a blockhead of a boy can read through a nine-inch wall, or converse in Italian though he cannot read his mother-tongue, it is wonderful what an array of evidence they require in order to believe that the same boy is tricking them; for, even though he confess the whole, they will not yield him credit. To say, as they do say, that the convicted trickster is such a liar, that he cannot be believed even when he confesses his guilt, is a species of reasoning that none but a Phreno-mesmerist would adopt. When a felon pleads guilty at the bar of an offence with which he is charged, and accompanies that plea with a circumstantial detail of his motives for committing the crime, and of the manner in which it was perpetrated,—the judge and jury accept the plea, and banish or imprison him accordingly. It does not in the minds of the legal authorities invalidate the truth of this plea, that the prisoner has been a notorious knave during his whole life; neither, when a rogue confesses his crime on being arrested, is it thought that he does this from fear of the policeman. But the common rules which apply to common guilt, are not to be admitted in the case of mesmeric rogues; they are not to be believed, however clear their confession, or however circumstantial its details: their plea of "guilty," however it may blacken their character, or injure their interests, is to be ascribed to "wilful falsehood," or "fear of the police,"—they are, to save the feelings of those who have been their dupes or accomplices, to be *convicted of innocence*, however strenuously they insist on their guilt! This is Phreno-mesmeric logic and candour. But the sensible portion of the public cannot be deceived by such drivelling absurdity as this. They will, from all this, be a thousand fold more convinced of the weakness of those mesmerisers who can reason thus,—of their utter unfitness to investigate *any* truth, or estimate *any* evidence, and, consequently, to believe their doctrine to be erroneous, than they would be by the detection of a thousand cases of imposture. The truth is, those advocates of mesmerism who have pinned their faith on such cases, are very naturally and heartily ashamed of themselves, their pride suffers an intolerable wound, and they strive by every means which ingenuity can devise to extricate themselves from the net that has been drawn around them. For this we can scarcely blame, while we sincerely pity them; but when they add want of common candour to those means by which they struggle to escape from the derision which is showered upon them,—then, we must cease to pity, and be content to despise.

When we consider the difficulty of obtaining proof of mesmeric roguery, and how unpleasant, as well as unprofitable, the inquiry must be, and when we recollect, moreover, that a large proportion of the mesmerised are admitted to be impostors, we can understand why medical men stand aloof from investigations so often vexatious and degrading.

If the difficulty of bringing home proof to the guilty did not deter, the insolent taunts of many of the mesmerists themselves are sufficient to disgust, those medical men who would enter on the topic. If a member of our profession insist on his right to doubt or disbelieve without further evidence, he is instantly assailed out of Gall's preface with all the instances of mistaken condemnation of sciences and scientific men, winding up generally with Harvey and Galileo, for those who know no other instances, at least know these. We wonder they do not quote the more modern instances of Jeffrey's contempt of Lord Byron as a poet, and Lardner's assertion, that it would be impossible to cross the Atlantic by steam, a statement, we believe, he proved to be a mistake in his own personal experience. Perhaps the medical man's own patients and friends oppose him. But though the above remarks suggest very strong reasons for the dislike of medical men to the investigation, we repeat that it is, in our opinion, nevertheless, necessary to enter on the inquiry.

If the subject be too important for us to put it aside with a contemptuous phrase, neither are we to be scared from the investigation by a set of objectors who take for granted that the marvels of mesmerism are true, but assure us, that they are effected by "Satanic agency." Charlotte Elizabeth Tonna, a writer known in the religious world, believes devoutly that Miss Martineau, during her mesmeric education and cure, has been coquetting with the devil

from beginning to end. She states "three propositions" as being inevitably true, either that Miss M. is not speaking the truth, or that "J." their servant, the "clairvoyant" girl, lies, and that she, Miss M., lies under a mistake, or that the whole matter is supernatural, and "if supernatural, then most assuredly diabolical." Fully acquitting Miss M. and "J." of falsehood, this excellent lady comes by the above admirable logic to the conclusion, that the old enemy in person presided over Miss M.'s *séances;* and then goes on at considerable length to lecture her on the enormity of which she has been guilty. Charlotte Elizabeth couples Miss M. with a French author who asserted that he proved by mesmerism the soul of man to be a material substance, calls upon her to shrink from a system that treads so near upon the awful verge of "blasphemy against the Holy Ghost," thinks it would be strange indeed if there were "anything which the supernaturally gifted author of mesmerism, a fallen angel, could not easily accomplish," and roundly asserts, that "J.," when in the mesmeric sleep, is possessed by a spirit of divination, "as was the damsel who followed the apostles." These seem awful charges, but we have no doubt Miss M—— will smile at the simplicity of the good lady who makes them. She will say to her, "My dear Madam, the faith with which you read your Bible is a very simple faith indeed;" and then turning to her readers with an earnestness and a simplicity equal to that of Charlotte Elizabeth, she will insist on the necessity of a "simple faith" in the reception of new facts, in all who would study mesmerism with candour and success. Miss M—— is, we believe, like many of her excellent relatives and connections, a Unitarian. We mention this in no unbecoming spirit, simply because the circumstance furnishes an apt illustration of our meaning. Charlotte Elizabeth seems not to be aware of the fact, or no doubt she would the more easily be convinced that the author of evil was at Miss M——'s elbow during all this mesmeric *furor*. What would Miss M—— answer to Charlotte Elizabeth's demand for a sincere, simple, and child-like faith in the doctrine of the Trinity? She would reject it with disdain, and declare that she reads her Bible by the light of her reason. But how inconsistent is it of Miss M——, while thus on this awful topic, claiming her right of scepticism, to refuse the same right to those who reject clairvoyance and phreno-mesmerism, systems totally at variance with all previously-observed phenomena, and to demand from them that "simple faith," which she refuses to the established belief of the great majority of Christians? But if we can look with a smile upon the ladies thus pulling caps, it is with burning blush of shame that we hear of an eminent divine of the Church of England viewing the matter in the same light, attempting to terrify his congregation from going to see M. Lafontaine's mesmeric exhibitions, (which naturally had the effect, we are informed, of getting him three-fold audiences), and desecrating the pulpit and his sacred office by medical anecdotes, which his hearers could not appreciate, and by dissertations which, we will be bold to say, neither his hearers nor himself could understand. Throughout Mr M'Neile's far-famed discourse, one absurdity is more prominent if possible than all others—it is the way in which he reiterates his demand for "the laws" of mesmerism, asserting that all the sciences have fixed laws, and that, therefore, this of mesmerism must also possess them. The absurdity of calling for the *laws* of a science which only pretended to be beginning to collect and count its elementary *facts*, is too obvious for comment. Apples fell to the ground before Newton's time; but where was the law of gravitation? Men felt and moved before the laws—such as we have them—of the nervous system were received, and our blood circulated, and our lungs respired, before the laws of respiration and circulation were at all known. It must be recollected that while Mr M'Neile is on the one hand calling for the laws of mesmerism in order to have it placed in the ranks of other earthly common-place and recognised sciences, he is, on the other hand, ascribing the phenomena of mesmerism to the devil. He is incessantly calling for the laws, and as emphatically insisting on Satanic agency, presenting very much the vacillating picture of the drawer, in Henry IV., who is always calling to some distant customer, "Coming, coming, Sir," but is always detained by the wicked prince. Mr M'Neile seems to have discovered a curious

similarity between mesmerism and "compressed steam!" He mentions the simile more than once. But his great argument for the author of evil being the author of mesmerism is drawn from the supposed support it affords to Popery. "And now what leads me to suspect that this *pretended* science—I must call it so till its laws are published—what leads me to suspect that this is of the devil, is this; it is precisely the thing which is pleaded now in defence of falsehood; it is precisely the thing which my Lord Shrewsbury has put forth, to prove that Popery is the true version of Christianity. What is his Ecstatica that he has written such a book about? You have heard of the Ecstatica and Addolorata, the two young women whom he saw on the Continent; *they were mesmerized.*" We need scarcely say, that the girls spoken of by Lord Shrewsbury were in all probability in a state not unknown to those who have seen much of hysteria. But Mr M'Neile, as credulous as any clairvoyance-monger, at once believes them to be mesmerised. Why? Because thus mesmerism supports Popery, which is of the devil, and, therefore, mesmerism is also of the devil. Q. E. D. Hinc illæ lachrymæ! We must, however, dismiss his famous sermon, and the famous objection of Satanic agency—well answered by the Rev. Mr Sandby, in his book on mesmerism—by giving one quotation. "If this be a science, let us have the laws on which these properties of matter act. When the *science of compressed steam* was set forth, many of its laws of acting were given; and its power always bears the same proportion to the pressure, as to the compression. It is the same in every science, and every physical science is subject to a rigid examination, and the laws of it can be stated, and the uniformity of its action. So, the shock of the battery is always proportioned to the charge. *Let us have the laws of the science, if it be a science; and if it be not a science, then what is it?*"

Once, in the House of Commons, a member who wished to display his importance, but did not understand the subject of debate, rose and said, "Mr Speaker, have we laws, or have we not laws? If we have laws, and these laws be not attended to, for what purpose are these laws made?" A sarcastic member, on the opposition side, instantly rose and said, "Mr Speaker, did the hon. gentleman who spoke last speak to the purpose, or did he not speak to the purpose? If he did not speak to the purpose, to what purpose did he speak?"

But seriously, the argument on the religiousness or irreligiousness of mesmerism seems scarcely worthy of grave consideration. It is surprising that such a man as Mr M'Neile could have been so far carried away by his Protestant Reformation Society impulses, as to advocate such a view of the matter. Science has no irreligious truths. All true science is in harmony with all true religion. If mesmerism in all its details could be proved to be true, it would speedily be found to be in harmony with the general scheme of benevolence which creation in all its parts displays. Geology was, not long ago, asserted to be at variance with the Scriptures; but it is now familiarly employed as furnishing illustrations of their truth. Had such writers as Charlotte Elizabeth and Mr M'Neile been listened to, we should never have possessed the sciences of chemistry or geology. It is melancholy to observe how near we still seem to be to the era, when witches were burnt at the stake for collusion with Satan. By such judges as the writers above quoted, the mesmerists are condemned already for the crime. Were the punishment the same as two hundred and fifty years ago, we should have Miss Martineau exhibited in the front street of Tynemouth with a tar barrel, probably set on fire by "J." as Queen's evidence, and Charlotte Elizabeth, and the Rev. Mr M'Neile looking up to heaven for an approval of the deed. Writers like these, whose religion is of a nature to keep them standing shivering on the brink of a new science, recoiling at every billow, that, to use the exquisite simile of Newton, breaks at their feet, throwing up the shells and pebbles of truth; and whose fanaticism conjures up out of the obscurity that gathers over the heaving waters, shapes of dread and diabolic agents,—such writers as these would do well to leave knowledge to struggle forward by itself, without encumbering it with their help.

It has been customary with writers on mesmerism, to commence with the simpler phenomena, and gradually to rise from the comprehensible to the mys-

terious,—from the simple induction of sleep, to the prophetic power and "instinct of remedies." "The author," says the writer of an excellent article in *Blackwood's Magazine* for Feb. 1845, speaking of Rev. Mr Townshend, "leads the reader up a gentle slope, from facts abnormal, it is true, but not contradictory, to received notions, to others deviating a little more from ordinary experience, and thence, by a course of calm narrative, to still more anomalous incidents, until, at length, almost unconsciously, the incredible seems credible, impossibilities and possibilities are confounded, and miracles are no longer miraculous." As, however, we do not see that this mode of approaching the subject is at all likely to improve our chance of forming a just estimate of it,—but is, on the contrary, calculated to mystify and mislead those who are not prepared by previous habits of scientific investigation,—as, in short, this method is merely arbitrary, and not founded on any systematic principles worthy of attention, —we shall venture respectfully to deviate from the beaten track of our contemporaries. For our object is neither to teach the art or science, nor systematically to inquire into its rise and progress,—but rather to take it up as it presents itself to us to-day, to examine it as it is forced upon our notice as a whole, and gradually working our way through the marvels which envelope it, to the more simple and credible statements on which it is based, to discover, if possible, what is error, and what truth, in the entire system. This is the method, we believe, in which most men, who have not *been brought up to it*, have approached the subject; they have been attracted at first by its mysteries, and then, if not repelled by the trickery and credulity of its followers, have gradually found their way through the errors of the system, to the facts on which it is based.

Our readers are, doubtless, familiar with the asserted phenomena of mesmerism. The sleep or coma induced by the agency of the mesmeriser, and generally asserted to be produced by the transmission of a "magnetic fluid" from the operator to the operee, is the first and most universal phenomenon. It is in this sleep that the other manifestations are displayed, somnambulism—or sleep-waking, in which certain faculties become torpid, while others are rendered more acute and sensitive;—community of sensation with the mesmeriser;—phreno-magnetism, or the development of the faculties of the patient on the corresponding phrenological organs being touched, rubbed, or even pointed at by the magnetiser;—catalepsy, partial or complete;—clairvoyance, or the power of seeing without the aid of the eye, and of perceiving objects beyond the range of vision, as, for example, the condition of the viscera in a body still living;—the prophetic power;—and the instinct of remedies, or faculty of discerning and curing diseases.

We have set down the mesmeric symptoms as they occurred to our mind, without any of the usual order or system, because the various manifestations have in reality no essential dependence on each other, but are each (after the sleep) *per se* independent phenomena. Though the sequence in which the mesmeric manifestations have been presented to the world by writers on the subject, does not seem calculated to favour our search into truth on the subject, there is a mode of arrangement which is forced upon the attention of every reader of these works, and which will, we think, assist us in our investigations. It is a division of the phenomena into those which are similar to appearances found in the human body, in various states of health and disease, and those which not only have never been before observed, but which are at variance with all experience, and which shock every deduction of calm reason. In the first rank may be placed the sleep, the muscular spasm, the impaired sensibility, the sleep-waking, or torpor of certain faculties while others are correspondingly exalted;—these phenomena, similar to what we are tolerably familiar with, especially among hysteric patients, may be classed among the credible, or, at least, possible mesmeric manifestations,—while the community of taste, the clairvoyance, the phreno-mesmeric phenomena, and the instinct of remedies, not being similar to any thing observed before, and some of them being at variance with all reason and experience, may be classed among the marvels of the "science," to establish which, of course, demands a more

complete and unassailable body of evidence than will be considered sufficient to establish our belief in the simpler phenomena. It is reasonable that we should expect more rigorous proof of a marvel, than of a circumstance of common occurrence; let us see whether this acknowledged axiom, in matters of evidence, is followed by the mesmerists in their narratives. Take Mr Townshend's first case of simple sleep, in which every precaution was apparently used to prevent imposture; which had all his own family and some other persons for witnesses, and in which the mesmerisee, after awaking, corroborated the fact of her having been in a strange somnolent state; and contrast this with a case of unconscious mesmerization, wherein by the mere effort of his will, when travelling in a stage coach, he mesmerized a fellow-traveller. As the cases are as suitable to be quoted as any in the whole range of mesmeric literature, we give them at length in Mr Townshend's own words, p. 56. "In the course of a residence at Antwerp, a valued friend detailed to me some extraordinary results of mesmerism, to which he had been an eye-witness. I could not altogether discredit the evidence of one whom I knew to be both observant, and incapable of falsehood; but I took refuge in the supposition that he had been ingeniously deceived. Reflecting, however, that to condemn before I had examined, was as unjust to others as unsatisfactory to myself, I accepted readily the proposition of my friend to introduce me to an acquaintance in Antwerp, who had learned the practice of the mesmeric art from a German physician. We waited together on Mr K., the mesmeriser, an agreeable and well-informed person, and stated to him that the object of our visit was to prevail on him to exhibit to us a specimen of his mysterious talent. To this he at first replied that he was rather seeking to abjure a renown that had become troublesome,—half the world viewing him as a conjurer, and the other half as a getter up of strange comedies; "but," he kindly added, "if you will promise me a strictly private meeting, I will this evening do all in my power to convince you that mesmerism is no delusion. This being agreed upon, together with a stipulation that the members of my own family should be present on the occasion, I, to remove all doubt of complicity from every mind, proposed that Mr K. should mesmerise a person who should be a perfect stranger to him. To this he readily acceded; and now the only difficulty was, to find a subject for our experiment. At length we thought of a young person in the middling class of life, who had often done fine work for the ladies of our family, and of whose character we had the most favourable knowledge. Her mother was Irish; her father, who had been dead some time, had been a Belgian, and she spoke English, Flemish, and French, with perfect facility. Her widowed parent was chiefly supported by her industry, and, in the midst of trying circumstances, her temper was gay and cheerful, and her health excellent. That she had never seen Mr K. we were sure; and of her probity and incapability of feigning, we had every reason to be convinced. With our request, conveyed to her through one of the ladies of our family, for whom she had conceived a warm affection, she complied without hesitation. Not being of a nervous, though of an excitable temperament, she had no fears whatever about what she was to undergo. On the contrary, she had rather a desire to know what the sensation of being mesmerised might be. Of the phenomena which were to be developed in the mesmeric state she knew absolutely nothing. Thus, all deceptive imitation of them on her part was rendered impossible. About 9 o'clock in the evening, our party assembled for what in foreign phrase is called "une séance magnétique." Anna M., our mesmerisee, was already with us. Mr K. arrived soon after, and was introduced to his young patient, whose name we had purposely avoided mentioning to him in the morning, not that we feared imposition on either hand, but that we were determined, by every precaution, to prevent any one from alleging that imposition had been practised. Utterly unknown as the parties were to each other, a game played by two confederates was entirely out of the question. Almost immediately after the entrance of Mr K., we proceeded to the business of the evening. By his directions, Mademoiselle M. placed herself in an arm-chair at one end of the apartment, while he occupied a seat directly facing hers. He then took each of her hands in one of his, and sat in

such a manner as that the knees and feet of both should be in contact. In this position he remained for some time motionless, attentively regarding her with eyes as unwinking as the lidless orbs which Coleridge has attributed to the genius of destruction. We had been told previously to keep utter silence, and none of our circle—composed of some five or six persons—felt inclined to transgress the order. To me, novice as I was at that time in such matters, *it was a moment of absorbing interest.* That which I had heard mocked at as foolishness—that which I myself had doubted as a dream, was perhaps about to be brought home to my conviction, and established for ever in my mind as a reality. Should the present trial prove successful, how much of my past experience must be remodelled and reversed! Convinced as I have since been to what valuable conclusions the phenomena of mesmerism may conduct the enquirer, never perhaps have I been more impressed with the importance of its pretensions, than at that moment, when my doubts of their validity were either to be strengthened or removed. Concentrating my attention upon the motionless pair, I observed that Mademoiselle M. seemed at her ease, and occasionally smiled or glanced at the assembled party; but her eyes, as if by a charm, always reverted to those of her mesmeriser, and, at length, seemed unable to turn away from them; then a heaviness, as of sleep, seemed to weigh down her eyelids, and to pervade the expression of her countenance; her head drooped on one side; her breathing became regular; at length her eyes closed entirely, and, to all appearance, she was calmly asleep in just seven minutes from the time when Mr K. first commenced his operations. I should have observed that, as soon as the first symptom of drowsiness was manifested, the mesmeriser had withdrawn his hands from those of Mademoiselle M., and had commenced what are called the "mesmeric passes," conducting his fingers slowly downward, without contact, along the arms of the patient. For about five minutes, Mademoiselle M. continued to repose tranquilly, when, suddenly, she began to heave deep sighs, and to turn and toss in her chair. She then called out, 'Je me trouve malade! Je m'étouffe!' and rising in a wild manner, she continued to repeat, 'Je m'étouffe!' Upon this, Mr K. again operated with his hands, but in a different set of movements, and, taking his handkerchief, agitated the air around the patient, who forthwith opened her eyes, and stared about the room like a person awaking from sleep. No traces of her indisposition, however, appeared to remain, and, soon shaking off all drowsiness, she was able to converse and laugh cheerfully as usual. On being asked, what she remembered of her sensations? she said that she had only a general idea of having felt unwell and oppressed; that she had wished to open her eyes, but could not; they felt as if lead were on them; of having walked to the table she had no recollection. Notwithstanding her having suffered, she was desirous of being again mesmerised, and sat down fearlessly to make a second trial. This time it was longer before her eyes closed, and she never seemed to be reduced to more than a state of half-unconsciousness. When the mesmeriser asked her, if she slept? she answered, 'Je dors, et je ne dors pas.' This lasted some time, when Mr K. declared that he was afraid of fatiguing his patient, (and probably his spectators too) and that he should disperse the mesmeric fluid. To do so, however, seemed not so easy a matter as the first time, when he awoke the sleep-waker. With difficulty she appeared to rouse herself, and even after having spoken a few words to us, and risen from the chair, she suddenly relapsed into a state of torpor, and fell prostrate to the ground, as if perfectly insensible. Mr K., entreating us not to be alarmed, raised her up, placed her in a chair, and supported her head with his hand. It was then that I distinctly recognised one of the asserted phenomena of mesmerism. The head of Mademoiselle M. followed every where, with unerring certainty, the hand of her mesmeriser, and seemed irresistibly attracted to it as iron to the loadstone. At length, Mr K. succeeded in thoroughly awakening his patient, who, on being interrogated respecting her past sensations, said, that she retained a recollection of her state of semi-consciousness, during which, she much wished to have been able to sleep wholly; but of her having fallen to the ground, or of what had passed subsequently, she remembered

nothing whatever. To other inquiries, she replied that the drowsy sensation which first stole over her, was rather of an agreeable nature, and that it was succeeded by a slight tingling, which ran down her arms in the direction of the fingers of her mesmeriser. Moreover, she assured us that the oppression she had at one time felt was not fanciful, but real—not mental, but bodily—and was accompanied by a peculiar pain in the region of the heart, which, however, ceased immediately on the dispersion of the mesmeric sleep. These statements were the rather to be relied upon, inasmuch as the girl's character was neither timid nor imaginative."

We pause for a moment to show, what was Mr Townshend's state of mind after beholding this comparatively simple case; "To sum up my intentions, *I desired to show* that man, through external human influence, is capable of a species of sleep-waking differing from the common, not only inasmuch as it is otherwise produced, but as it displays quite other characteristics when produced." Who does not recognise in this "*desire* to show" that mesmerism is true after such slender proof,—the "simple faith," the resolute and enthusiastic credulity,—the prejudice in favour of the yet unexamined system, which is the key to all the marvellous mistakes of mesmerisers? But to return. Now let the above narrative, to which hysteria presents many points of similarity, and which is therefore received without much difficulty, be compared with the following case of mesmerisation produced by the mere exercise of the will upon a patient unconscious of the power exercised over him. P. 452, "On another occasion, I was convinced in a manner the most odd, and even comic, how great is the *influence of the will* in directing the impulses of the mesmeric medium. I should hesitate about relating the story, were it not that, in a new science, every thing has its importance, and the least studied effects are often the most valuable and sure. Travelling in a stage coach in England, with three other inside passengers, (one of them a Cambridge friend, to whom I can appeal for the truth of the relation) I fell into the following train of thought. If mesmeric effects occur only through certain contact and gestures, why is it that men never mesmerise each other unawares? At a public meeting, in a church, in a theatre, in all places where human beings congregate, there is plenty of the mesmeric influence going about unappropriated. Why is it that this does not take effect, and that no one should sleep in such circumstances, unless the orators are prosy, and the play stupid enough to act as a soporific? Surely this is because the influence requires a will to concentrate it and to give it a particular direction, before it can individually operate. Now, here am I, in a most favourable position for mesmerising the person opposite to me. His knees and feet are in contact with mine—in the true mesmeric position. At present he does not look sleepy in the least, and up to the present moment, the idea of mesmerising him has not entered my head. Let me see if this want of the idea is the true cause why I have not hitherto affected him. If, by a silent exertion of my will, I can now, from wide awake, bring him fast asleep in a very short period, the relation between cause and effect will be, I think, pretty well established. 'Sur ces entrefaites,' as the French say, I began mentally to exert my volition, and to fix my attention on my unconscious patient. From time to time I looked at him mesmerically, but watched my opportunity, when his own attention, being turned elsewhere, permitted me to stare at him, without the fear of being challenged. In about ten minutes the charm began to operate. My victim's eyes kept reverting unconsciously, as it were, to my face, which, however, I turned away whenever I saw him looking at me, and, at length, he began to shut them with that slow and peculiar motion which is indicative of mesmerisation. They did not, however, close, but remained more than half open, becoming perfectly fixed, and, as it were, dead, displaying the whites in a manner which by no means contributed to embellish a physiognomy naturally none of the handsomest. Behold, then, my man asleep; so soundly, indeed, that the coach stopped, and horses were changed, without his being in any way disturbed from his mesmeric nap. When we were again in motion, I began to be agitated by some strange doubts, whether my will would

be found as effectual to end, as it had been to create, the spell which held the slumberer, who always remained in the same position as at first, with his eyes more dead than ever. As I had soon to quit the coach, I really feared that my sleeper, *unawakened, might follow me, attached by mesmeric attraction, to my side.* The question of the will's supremacy was now to be tried to the utmost. First, without any effort of volition directed to the end of awakening my patient, I stirred about, spoke loud, and let down the window next me with a rattle: my fellow-passenger did not awake. I then, concentrating my will on the one idea of dissipating the mesmeric influence, leant forward with something of that motion of my hands which, in usual circumstances, accompanied the idea. Immediately my patient began to stir, move his eyes, and rub them, staring still rather wildly, and in a confused manner muttering that he really thought he must have been asleep"!

Now every one would expect, that the latter narration, being so much more extraordinary and incredible than the former, would have been supported by more rigorous proof, and a more irresistible body of evidence. In the former case, however, we have a great number of witnesses, whose belief is corroborated by the mesmerisee herself; in the latter, we have only Mr Townshend's belief that he had mesmerised his fellow-traveller, and the story is told so simply, that every one in reading it, will recognise in the mesmerised man one of those nodding "insides" with whom we have all travelled in more than half the journeys we have taken. A worthy friend of ours is mesmerised in the same way every Sunday forenoon in church, presenting even more decided "manifestations" than Mr Townshend's fellow-traveller. And we remember an anecdote of a whole congregation, except one poor idiot lad, being "unconsciously" mesmerised by a rather dull discourse. Seeing the whole nodding, the reverend mesmeriser, in his vexation, called out from the pulpit, "What, are you all asleep, but this poor idiot?" "Aye," replied the other, "and if I had not been an idiot I would have been asleep too!" The uneasiness of Mr Townshend lest he should not be able to break the spell which bound his fellow-traveller, is sufficiently *naïve* and ludicrous. We quote the above,—not only as fair average cases of the kind narrated by mesmeric writers,—but also as displaying the nature of the evidence in general given,—which, after a careful perusal of many of the best authors on the subject,—seems to us always to be weak and inconclusive in an inverse ratio to the marvellous and incredible nature of the statements. We find that in multitudes of cases, in which mesmerisers have asserted that they could put their patients to sleep, without the latter being conscious of the manifestations, —for example, from another room, or another house, or at a distance of miles, by letter,—when brought to the test, failure has, in this country, uniformly been the result. Not by any means, that the mesmerisers had in every case been deceiving, but simply that the necessary precautions had not been taken previously to the rigorous examination of some cool-headed sceptic. It ought to be stated, however, that many mesmerists still assert their capability of influencing patients at a distance, and that in Husson's report of the committee appointed by the Royal Academy of Medicine at Paris, the following paragraphs occur:—"We can not only act upon the magnetised person, (by volition alone) but even place him in a complete state of somnambulism, and bring him out of it without his knowledge, out of his sight, at a certain distance, and with doors intervening." "Magnetism is as intense, and as speedily felt at a distance of six feet, as of six inches, and the phenomena developed, are the same in both cases." In the words of the writer in *Blackwood*, however, "The advocates of it challenge inquiry in print, but they shrink from, or sink under, experiment."

It would seem, indeed, that unprofessional mesmerists, as soon as they have been convinced of the reality of the spasmodic motions of the eye and the sleep, find these phenomena so incomprehensible and so much out of the range of their previous knowledge, that they at once abandon reason and experience as guides in their further investigations, and, thenceforward, as is usual in similar cases, the more marvellous the narrative, the more easily is it

gulped down. In mesmerism, especially "Ce n'est que le premier pas qui coute." We hope to be able to show, however, that some of the phenomena of mesmerism are not at variance with medical experience, and, as after having believed in the sleep-waking, we do not feel ourselves abandoned by the usual guides of our lives—reason and our senses—we hope to be able to form a tolerably correct estimate of the alleged phenomena.

The very simplest and most natural symptoms seem converted into mysteries and marvels by the mesmerists who have thus abandoned reason and experience. Almost all mesmerists, for example, talk of the extraordinary effect upon the eye in passing into the mesmeric slumber. We have seen four or five patients *who were all afterwards proved to be impostors*, in each of whose cases experienced mesmerisers were deceived, and who especially dwelt on the peculiar appearance of the eyes as proof of their really being in the sleep, previous to their awakening and confession. We are perfectly aware that any amount of imposture, or credulity, will not invalidate a single real fact; but when we find so many cases recorded, which have previously been considered by the apostles of the science as its main pillars, turn out, on scrutiny, to be merely deceptions, no one can blame us for doubting the reality of the rest. We may mention the Okeys, Alexis, Petronille,[1] &c., all of which, and many others previously considered the very best illustrations of the truth of the science, were discovered to be impostures on the one part, and mistakes on the other. Their falsehood having been made manifest, they now furnish as good evidence of the fallacy of the supposed science, as they before were asserted to be proofs of its truth. But let us see what eye-symptoms Mr Townshend mentions as being peculiar to the mesmeric trance. In a lady whom he mesmerised at Rome, there was increasing weight on the eyelids,—an inclination to close the eyes,—a vapour stealing between herself and the object regarded,—then a tingling of the arms, and a feeling as of currents of air. Mr Townshend mentions also the case of G—— A——, "who enjoyed such a high degree of mesmerism," who spoke of a vapour rising before his eyes in mesmerization. This he declared to proceed from Mr Townshend, said that it penetrated and pervaded his frame, and "*was the effectual cause of the mesmeric sleep.*" He mentions particularly also, that "one of the first tokens a person gives in passing into mesmeric sleep-waking,

[1] Among the somnambulists who flourished in Paris about the time of the second Commission of the Academy of Medicine, (1826,) few, if any, distinguished themselves more than a young woman named Pétronille. The marvels which she performed were recorded at length at the time, and contributed powerfully to stagger the disbelief of many, and among others, of the learned Georget. This woman died at the Salpétrière, under the care of a talented physician, Dr Perrochaud, who is now practising at Boulogne-sur-Mér, and was at that time "interne" in the above hospital. The following is an extract from a letter very recently received from Dr Perrochaud, in answer to some inquiries respecting Pétronille:—"It is quite true that the famous Pétronille, who was at one time considered an extraordinary somnambulist, confessed to me, some days before her death, that she had constantly deceived the good faith of those who performed magnetic experiments on her. She gave me, at the time, many details respecting the tricks which she resorted to, in order to abuse the learned and conscientious persons who afterwards, on these experiments, founded memoirs and reports extremely favourable to magnetism. Pétronille was endowed with a remarkable degree of perspicuity and shrewdness; she possessed that spirit of audacity and trickery, mingled with effrontery, which is so often observed in the "*gamin de Paris*," whose sister she might be considered: she used to take advantage of the slightest indication. I was very often wrong, she said, but when I approached the truth, or had guessed nearly right, all present clapped their hands, and exclaimed that it was a miracle, and this made up for my mistakes and gropings (tâtonnemens.) She died in the year 1833, in the Salle de Marthe, at the Salpétrière, of consumption, the origin of which was rather singular. One of the physicians of the Salpétrière, in order to cure the nervous attacks under which she laboured, (epileptic,) administered a sudden cold bath. The fits did not return, but she was attacked with slow consumption, which at last carried her off." *Ab uno disce omnes.* —*Sub-Editor of Lancet.*"

is a look of stupor in the eyes, and apparent want of power in the eyelids to perform the usual office of nictation." Now every physiologist knows well that all these symptoms would in almost every person arise from earnestly fixing an unwinking gaze on any elevated object. The orbiculares palpebrarum, and superior recti muscles, become temporarily paralyzed, by being kept long in action, and the stretching of, and pressure upon, the optic nerve, and its expansion by the twisted position of the eyeball, are sufficient to account for the disturbance of vision. Any one who will look fixedly at a small object placed immediately above his eyebrows, or in a line with them, may prove the correctness of the above statement. What effect the exhaustion of the nervous energy caused by the long unintermitted gaze, and what also the peculiar fixed position of the head, which obstructs the return of the blood to the heart, and of itself in most persons produces a feeling of pressure at the base of the brain,—what effect these may have in inducing or influencing the coma, it is difficult to say; but that they are more likely to produce the somnolency, than any magnetic influence transmitted from the operator, seems to us at least highly probable. The writer in *Blackwood*, to whom we have formerly alluded, seems to think that there is more in the mesmeric coma than can be accounted for by the physical effects of the stare alone, and thinks the human eye has some specific influence in producing the result. He mentions the tendency a person has to feel embarrassed and painful if long stared at, and alludes to the school-boy trick of staring out of countenance, as "not so bad a test of moral power as it would at first sight seem to be." We think, however, with deference to him, that the embarrassed feeling on being stared at long, arises from no mystical or mesmeric influence, but simply from our not liking to be criticised, and from our self-love taking the alarm if we are scrutinizingly watched. Or, our uneasiness arises in other cases from a rising disposition to punish the author of the insolent stare. A demirep of quality will out-stare the strongest ploughman; yet surely the former, according to mesmeric theories, is not likely to possess the superior amount of "magnetic power." Moreover, if a young officer happen to be bashful, however broad his shoulders or vast his mesmeric power, the critical glance of a fashionable girl will cause him to feel more of this "embarrassment" than the stare of his whole troop of grenadiers. As to the school-boy trick, it is generally the least sensitive eye, and not the noblest soul, that holds the longest out. The author alluded to further says, "Let any one gaze steadily at a dog half dozing at the fire-side, the animal will, after a short time, become restless; and if the stare be continued, will quit his resting place, and either shrink into a corner, or come forward and caress the person staring." We have tried the experiment a hundred times, and always found, that if by leaning forward, and directing our whole attention to the dog, so that he *evidently knew he was noticed*, he would notice his master in return; but if in reading a book, for example, the volume was lowered only so as to see the dog, we might stare as long or as hard as we chose, without his paying the least attention. In the first instance, the dog knew he was noticed by the gesture and full face directed to him; he of course acknowledged this notice; but in the latter, not seeing the usual signs of attention being directed to him, he lay still in spite of the magnetic glance. M. Deleuze, in his *Instruction Pratique sur le Magnétisme Animal*, speaks also on canine mesmerism, p. 263, "J'ai vu des chiens en bonne santé donner des signes de leur sensibilité au magnétisme, et quelquefois même paraître inquiétés de son influence," &c. "A scientific man," says Mr Townshend, "accustomed to investigation, being in the state, (of the sleep), assured me, that he experienced a gradual paralysis of the nerves connected with the eye, and with the motive powers of the eyelid, and that at length his utmost efforts of volition were insufficient to make the orbicular muscles obey him as usual." Undoubtedly; and the same phenomena, with many others, will occur with any one who will look steadily for a length of time at an object placed above his eyebrow. The contraction followed by the dilatation of the pupil is insisted on as another extraordinary condition induced by the mesmeric influence. But physiologists know that as the contraction of the iris, at the commencement of the "magnetic" stare, arises from the irritation of the

retina, which instantly calls upon the iris to shut out a portion of the light, so the relaxation, and in the end the immobile dilated state of the iris which follows, is the result of the exhaustion of the retina, caused by the long-continued unwinking gaze. The retina is the incident excitor of the motor nerve of the iris, and the temporary paralysis of the former leads to the inaction of the latter nerve, and the consequent repose of the muscle which it supplies. Yet these are mentioned as curious *mesmeric* phenomena. The eye of any one fixed in a steady upward stare soon becomes dim; the cornea not being wiped by the eyelids is speedily covered with a film, objects often recede and advance; for example, the walls of the room appear and disappear with curious alternations of light and gloom; the conjunctiva in many cases become gorged with blood, and the eye has a ghastly appearance. All this is matter of daily experience; but these very symptoms are magnified by mesmeric writers into mysterious "manifestations," developed only by the power of animal magnetism!

The effects said to be produced on the other senses are community of taste, and incapability of hearing any sounds but those of the mesmeriser, unless placed *en rapport* with a third party through communication with the operator. Of the first of these there are many instances given in books and on platforms, but in every case in which there has been any strict and rigorous investigation, proof has failed. It is unnecessary to quote instances of this,—they are to be found in every account given of examinations into the merits of mesmerism, from that of the French Academy downwards. We shall say nothing about the effects upon the hearing, because it is stated, that some do hear and some do not without being placed *en rapport*, and because there is not one case of a really trustworthy kind upon record.

In treating of the effects on the senses, indeed, the contradictory statements of the mesmerists are so common, that there is scarcely a book on the subject, in which one part does not refute another. Thus, some insist that in order that the mesmerisee may hear, he or she must be placed *en rapport* with the operator; others that the sleep-wakers answer all present indifferently,—some find community of taste in almost every case; whereas others never observed the phenomenon;—some assert the *will* to be every thing, others say it is of no consequence;—some say illness prevents the influence acting, others, that persons in ill health are most susceptible,—while it seems generally agreed by the magnetists, that whether *en rapport* with an unbeliever or not—"l' atmosphére d'incrédulité" around him is amply sufficient to arrest the whole mesmeric agencies! The singular power said to be possessed by the mesmerised, of knowing different persons, their handkerchiefs, snuff-boxes, &c., though all the time their eyes are bandaged, may by some be referred to a highly exalted sense of touch and smell; others, however, refer them to the clair-voyant faculty, and we shall therefore pass on to it, as that which is one of the most characteristic marvels of mesmerism, and which, in the eyes of the public, constitutes its grand feature.

CLAIR-VOYANCE.

Bourdin, in 1837, considering clair-voyance the only undoubted test of mesmeric somnambulism, offered a prize of 3000 francs to any one who should read without the use of his eyes or touch. The money was deposited with a notary, and a committee of seven members appointed to conduct the examinations,—two years being allowed for candidates to appear. Dr Biermann of Hanover, M. Ricard of Bordeaux, M. Pigeaire of Montpellier, and finally, Dr Hublier of Provence, all made application,—but all, from one cause or other, shrunk from the examination. The last named magnetiser, Dr Hublier, notwithstanding his apparent confidence that his somnambule, Mademoiselle Emelie, would gain the prize, under one cause or other, allowed two years to elapse without bringing her forward. We quote the result from the first of an excellent series of articles in the *Lancet*, by Dr Charles Radclyffe Hall, (*Number for February* 1.)

"In October 1837, Dr Hublier of Provence writes in behalf of Made-

moiselle Emelie; but notwithstanding the glowing terms in which he mentions the clairvoyance of this lady, and her wish to obtain the Bourdin prize, for one reason or another, the allotted two years were allowed to expire without her appearing to prove her powers before the committee. To afford every chance, M. Bourdin then extended the term for another year, and altered the original conditions to the following:—'Bring me any person, magnetised or not magnetised, asleep or awake, who can read in broad daylight, through an opaque body, whether cotton, horse-hair, or silk, placed six inches from the person, who can read even through a simple fold of paper, and that person shall have three thousand francs.' Still Dr Hublier hesitated, sometimes because his 'excellente somnambule' was *practising* to attain the requisite perfection, sometimes because she was indisposed, and so on. As the time of grace drew near its close, Hublier craved another year's delay. This being refused, he sent his protégée to M. Frappart for a preparatory trial.

"On the first occasion of testing her clairvoyance, after a futile attempt for two hours, Emelie declared she was too much fatigued by her journey. On the second, she complained that headach and oppression at the stomach retarded her lucidity. On the third, after two hours of study, she said she could read the word "phrenology;" the word was "phthisis." On the fourth, she read "Œuvres de Ciceron;" the words were "L'Histoire d'Angleterre." She explained these mistakes by stating, that she was confused by *seeing all the books in the library*, and that she *mistook one for another*. To obviate this inconvenience, the next (fifth) trial was made in another room. As soon as Mademoiselle *told* M. Frappart *that she was asleep*, he placed a book on a chair, four feet behind her, said he was obliged to leave her, but as soon as she had *satisfied herself that she was clairvoyant*, she must ring the bell. On his return, she described the size of the book, the colour of the binding, and letter by letter spelt out its title correctly. On the sixth trial, Frappart enters when Emelie rings. She succeeds as well as on the previous occasion, and, moreover, repeats a line correctly from a page to which *she directs* Monsieur to refer.

"M. Frappart now writes to ask Hublier to be present at the next experiment. MM. Londe, Teste, Amédée, Latour, Douillet, Bœhler and Carpentier, Hublier and Frappart, accordingly are present. The others being concealed, so that they could watch through small holes made in the doors of the apartment, Frappart enters; and reminding Emelie that this is her last trial, desires her to ring the bell, when she is in the state of lucid somnambulism. In about five minutes the bell sounds; Mademoiselle says she sleeps; a book is placed as usual, and Frappart retires. Six times was this clairvoyant seen to walk to the book, and carefully examine it, and also to make pencil notes of what she read. At length she rings the bell. Messieurs enter, all except M. Londe, who retains his post of concealment in front of Emelie. Mademoiselle describes the book, recites certain passages from it, and is seen by M. Londe to look at her notes. Hublier writes an acknowledgment that for four years he had been deceived by 'une maitresse femme.'"

Many other cases of clairvoyance have been publicly examined and tested, all which have been proved to be false. Mr Wakley's exposure of the Okeys, Dr Elliotson's patients, is well known; and Dr Forbes' proof of the knavery of Alexis and M. Marcillet, will be fresh in the memory of our readers. The boy "Jack" of Mr Hawes of Greenwich, who, it was said, could, like one of Mr Townshend's patients, read through his forehead, after deceiving his master for a great length of time, was at length at Manchester shown to be an impostor, when Mr Hawes refunded the money paid for admission by the spectators. A very recent case of a precisely similar kind has occurred to a friend of our own. Nevertheless authors continue to assert, and the assertions of Messrs Townshend, Miss Martineau, &c. remain, that they have clairvoyant patients, and that the above deceptions by no means prove that all is deceit. This is, doubtless, undeniable. It is strange, however, that every case which has publicly been carefully tested should have turned out imposture; and though of course we cannot deny the possibility of clairvoyance, nor even prove that Mr

Townshend and others have been deceived, it is but reasonable that we should feel convinced without better evidence to the contrary, that these cases also have been delusion or deceit. But there are none of the recorded cases of clairvoyance more characteristic of "the science" than that of Miss Martineau's attendant "J." It possesses every quality which can belong to a mesmeric narrative calculated to win attention. No platform or drawing-room *éclat* here —no tricky itinerant lecturer, or money-loving mesmerisee; the usual sources of delusion and deceit seem altogether absent. Of an acute mind, accustomed in political, moral, and religious, if not in scientific matters, to estimate evidence and investigate truth,—bold and candid,—of a veracity, notwithstanding her marvellous statements, never questioned,—possessed of a character of the highest moral elevation,—Miss Martineau gives to her subject all the dignity and weight which talent and truth can bestow. It is in vain to quote a number of cases,—none can be more favourable for mesmerism than hers, and if hers can be proved to be erroneous,—if even she, with all her truthfulness and acumen, can be shown to be manifestly weak in her conclusions, and credulous in her views, the inference will be necessarily drawn, that other cases are probably utterly unworthy of credit. Miss Martineau's revelations may, like most other cases of mesmerism, be divided into two parts —the credible (which again ought to be divided into the probable and the possible) and the marvellous (which may be also divided into the incredible and the impossible.) The more simple phenomena relate to herself—the marvels to her servant. So great is our faith in Miss M.'s veracity and candour, that had *she* shown some of the phenomena of somnambulism displayed by her servants, we should have believed them,—but in the whole range of mesmeric patients, it is curious, that not one person of high character has ever afforded any but the simpler, nay the simplest, mesmeric manifestations. Let us premise, that on June 22, Miss M. was first mesmerised. On October 1st, upwards of three months afterwards, during which period Miss M. had been daily mesmerised—at first by her own maid, and then, when that was not found to answer so well on account of the "subordination being in the wrong party," by "the widow of a clergyman." On October 1, "I was mesmerised by the other maid"—Miss M.'s friend's maid. We cannot but remark how fortunate these ladies were in their maids—both of whom, as well as their mistresses, were expert mesmerisers, and who seem not to have let their talent rust for want of use. But is it not strange, after being aware of these facts, to read the following sentence of Miss M.'s :—"There was in her case certainly no 'imagination' to begin with; for she was wholly ignorant of mesmerism, and had no more conception of the phenomena she was about to manifest, than she has consciousness of them at this moment." No doubt of it. We believe, and every one who reads the narrative, will believe that her knowledge then, and her consciousness afterwards, were on a par. Miss M., however, has no doubt, meaning, she believes that "J.," after three months' gossip with the two mesmerising maids, knew nothing of the phenomena,—Mr Spencer Hall being about that time itinerating in the neighbourhood, and half the boys in Tynemouth and Shields being thumbed by mesmerisers! Now this we mention as an instance of the extreme credulity which seems to fix at once on all the votaries of mesmerism—immediately they yield up their faith to its marvels,—a credulity so simple that it must be observed to be believed; but at the same time, a credulity so universal, that every reader not pre-occupied with "the science," perceives it in every book on the subject. It is this which vitiates the evidence of the most sincere disciples of mesmerism, and makes their convictions of no more value than those of the Irvingites, or Johanna Southcotians in their respective delusions. "To preserve this unconsciousness as long as possible," continues Miss M., "*we shut out our maids at once.*" Barbarous! both the maids mesmerisers too!—but mesmeric science has its aristocrats, and exclusives, as well as mere vulgar fashion. "We shut out our maids at once, and WE TWO have been the constant witnesses, with a visitor now and then, to the number of about twelve in the whole." Of course, as the mistresses were careful to shut the maids out, they would be also care-

ful of the kind of visitors they let in; and we may be pretty sure that these would all be of the *right* way of thinking,—not persons to disturb the "unconsciousness of J.," nor likely to carry away any but favourable reports of the marvels exhibited. Before this well packed jury, the cause of clairvoyance was to be tried.

"The next evening (Monday, October 14,) J. did not come up as usual to our *séance*. There was affliction in the household. An aunt (by marriage) of J.'s, Mrs A., a good woman I have long known, lives in a cottage at the bottom of our garden. Mrs A.'s son, J.'s cousin, was one of the crew of a vessel which was this evening reported to have been wrecked near Hull. This was all that was known, except that the owner had gone to Hull to see about it. J. was about to walk to Shields, with a companion, to inquire, but the night was so tempestuous, and it was so evident that no news could be obtained, that she was persuaded not to go. But she was too much disturbed to think of being mesmerised. Next morning there was no news. All day there were flying reports,—that all hands were lost—that all were saved—but nothing like what afterwards proved to be the truth. In the afternoon, no tidings having arrived, we went for a long drive, and took J. with us. She was with us, in another direction, till tea-time; and then, on our return, there were still no tidings; but Mrs A. had gone to Shields to inquire, and if letters had come, she would bring the news in the evening. *J. went out on an errand, while we were at tea,—no person in the place having then any means of knowing about the wreck; and on her return, she came straight up to us for her séance.*[1] Two gentlemen were with us that evening, one from America, the other from the neighbourhood. I may say here, that we noted down at the moment what J. said; and that on this evening there was the additional security of my American friend repeating to me, on the instant, (on account of my deafness), every word as it fell.

"J. was presently asleep, and her mesmerist, knowing the advantage of introducing subjects on which the mind had previously been excited, and how the inspiration follows the course of the affections, asked, as soon as the sleep was deep enough, 'Can you tell us about the wreck?' J. tranquilly replied, 'Oh! yes, they're all safe; but the ship is all to pieces.'—'Were they saved in their boat?' 'No; that's all to pieces.'—'How, then?' 'A queer boat took them off; not their boat.'—'Are you sure they are all safe?' 'Yes; all that were on board: but there *was* a boy killed. But I don't think it is my cousin.'—'At the time of the wreck?' 'No, before the storm.'—'How did it happen?' 'By a fall.'—'Down the hatchways, or how?' 'No; he fell through the rigging, from the mast.' She presently observed, 'My aunt is below, telling them all about it, and I shall hear it when I go down.'[2]

"My rooms being a selection from two houses, this 'below' meant two stories lower in the next house.

"She continued talking of other things for an hour longer, and before she awoke the gentlemen were gone. After inquiring whether she was refreshed by her sleep, and whether she had dreamed, ('No') we desired her to let us know if she heard news of the wreck; and she promised, in all simplicity, that she would. In another quarter of an hour, up she came, *all animation*, to tell us that her cousin and all the crew were safe, her aunt having returned from Shields with the news. The wreck had occurred between Elsinore and Gotten-

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[1] "*J. went out on an errand.*" Any one who knows with what rapidity news about missing ships flies among the population of a sea-port, will be aware, that immediately as the information had been brought to Shields, it would be carried to Tynemouth, only a mile distant. While "J.'s" aunt was down at Shields, we have no doubt whatever that the news had reached Tynemouth, and that "J.," when out on her errand, procured it. The fact that she went "straight up to the séance" when she came back, although she was previously "too much disturbed to think of being mesmerised," is, we think, a strong proof of this. Miss Martineau, with Dr Hublier, has, we think, been deceived by "une maitresse femme."

[2] Mr Braid, Manchester, suggests that the increased susceptibility in the ear might account for this.

berg, and the crew had been taken off by a fishing-boat, after twenty-four hours spent on the wreck, their own boat having gone to pieces. She was turning away to leave the room, when she was asked, 'So all are saved—all who left the port?' 'No, ma'am,' said she, 'all who were on board at the time: but they had had an accident before,—a boy fell from the mast, and was killed on the deck.'

"Besides having no doubt of the rectitude of the girl, we knew that she had not seen her aunt,—the only person from whom tidings could have been obtained. But, to make all sure, I made an errand to the cottage the next morning, well knowing that the relieved mother would pour out her whole tale. My friend and I encouraged her; and she told us how she got the news, and when she brought it to Tynemouth,—just as we knew before. 'How glad they must have been to see you at ours!' said I. 'O yes, ma'am:' and she declared my landlady's delight. 'And J.,' said I. '*Ma'am, I did not see J.*,'[1] said she, simply, and rapidly, in her eagerness to tell. Then, presently,—'They told me, ma'am, that J. was up stairs with you.'"

Dr Bierman declares to the Royal Society of Medicine of France, that he knew a little girl, who, when in the highest state of clairvoyance, ("au moment du plus grand reveil de l'âme,") could read many languages in manuscript, although in her natural state she only understood her mother tongue, German. Kluge asserts, that the secrets of the past, the present, and the future, are now no longer concealed from the somnambulist. He states what Mr Townshend and other writers more or less strenuously insist upon, that the clairvoyant becomes elevated and purified, and is incapable of insincerity,—is enabled (however ignorant naturally) to discourse on divinity, astronomy, chemistry, languages, according as the operator is distinguished in any of those branches of human knowledge. Miss M. also says, p. 24, "It is almost an established opinion among some of the wisest students of mesmerism, that the mind of the somnambule mirrors that of the mesmerist; *one naturally wishes to find it true*, as it disposes of much that, with the hasty, passes for revelations of other unseen things than those which lie in another person's mind. *It is certainly true to a considerable extent, and is pretty clearly proved when an ignorant child—ignorant especially of the Bible, discourses of the Scriptures and divinity when mesmerised by a clergyman,* (see Townshend), *and of the nebulæ, when mesmerised by an astronomer.*" But statements and opinions like these speak for themselves. Had we not already seen the amazing amount of credulity displayed by the mesmerists in giving mystical interpretations to circumstances capable of easy explanation on common principles, we should not have believed it possible that any of them of sane mind would have gravely given utterance to such phantasies;—having discovered that credulity, we can no longer examine or criticise, we can only smile. In concluding our observations on clairvoyance, we cannot help remarking on the discordance between the confident assertions of writers as to its existence, and the fact, that not one has ever gone through a close scrutiny. At the very time that Mr Townshend had two clairvoyants, one of whom could read through his forehead with great facility, there was a prize of 3000 francs open to any candidate who could be shown to do this. Mr Townshend, indeed, says, that he was training one of these patients for the prize; but if Mr Townshend was convinced of the truth of the statements he has given of the youth's power, no training could be needed. All other cases which have been carefully examined hitherto, in this country, at least, have failed. Another singular circumstance is, that NO MAN OR WOMAN OF STANDING AND CHARACTER HAS EVER EXHIBITED THE HIGHER PHENOMENA OF MESMERISM. Miss Martineau, certain members of the French Academy, Professor Agassiz, Dr Elliotson, and others of mark and likelihood, all exhibited only the sleep, or some modifications of it; while clairvoyance, phreno-mesmerism, community of taste, transposition of the senses, the prophetic power, the instinct

[1] Why this eagerness, Mrs A.? It sounds like the "*Thou canst not say I did it*" of conscience. (Since the above was written, it has been shown that "J." had seen her aunt, and that the whole was what it looks like, a trick.)

of remedies, &c., are all reserved for the boys of itinerant lecturers, servant girls, and hysterical young ladies. This of itself is sufficient to drive us to unbelief. Surely among the innumerable persons experimented on, some intelligent man or woman of known worth and character would have exhibited the marvellous manifestations alluded to. But where is there in all the records of mesmerism one individual of this stamp? An echo answers,—"Where?" When we hear of any one person of plain good sense and high moral character displaying any of these higher manifestations, we shall still be glad to inquire and to learn; until then, we think, we are fully entitled, from the facts above stated, to refuse the smallest credence to any of these phenomena. True, lucidity has some supporters of a most respectable kind,—a few persons of genius, many of high character and talent have vouched for the facts. Shall we therefore believe them? The love of the marvellous is not confined to vulgar minds; and there are mysteries and superstitions to which men of high mental endowments—especially if their imaginative faculty predominates—seem more disposed to give faith than even the common vulgar. And having once taken up the error heartily—the wider the range of their acquirements, and the more ardent and enthusiastic their genius—they are the better enabled to illustrate and enforce their opinions, "to make the worse appear the better reason," and to impose at once upon their hearers and themselves. Not to mention the superstitions of the wisest men among the Greeks and Romans, the credulities of Napoleon, Byron, and Dr Johnson equalled any of those displayed by the ultra-mesmerists. We do not, then, admit the convictions of men of genius or talent to be infallible, or even the best evidence of what is true, on a disputed subject like this, into which the marvellous so largely enters; the evidence of calm-minded, sensible men of science, acquainted with the laws of vital action in health and disease, and accustomed cautiously to investigate truth, is the most valuable, and of this species of evidence there is lamentably little in mesmeric literature.

Let us now say a few words on the

INSTINCT OF REMEDIES.

Miss Martineau, still speaking of "J.," says, "It soon became evident that one of her strongest powers was the discernment of disease, its condition, and remedies." She cleared up her own case first. The difficulty in the subject of the instinct of remedies is to get authors to relate cases of disease with the treatment of the clair-voyant. They almost always, in vague general terms, state that the disease was discovered, and the treatment successful, assertions which medical men too frequently hear repeated on the most absurd grounds, to consider worthy of the least attention. But Miss Martineau fortunately condescends to facts: let us see how "J. clears up her own case." "She herself," says Miss Martineau, "assigns in the trance a structural defect as the cause of her ailments, which will prevent their ever being entirely removed." Now, as the narrator states that this girl had, during six years, been under the treatment of several doctors, and was at one time a patient in the Eye Infirmary of Newcastle, it is easy to see the source whence "J." had derived her knowledge of the "structural defect." If none of the other doctors had informed her, certainly, Mr Greenhow or Sir John Fife, the surgeons to the above excellent institution, would explain it to her. But Miss M. prefers believing that "J." obtained her knowledge in the mesmeric, rather than in the obvious and simple manner pointed out. "J.," however, discovers her "strong powers" in discerning and curing disease, in the case of Miss Martineau, thus entirely throwing into the shade Mr Greenhow, a most intelligent and skilful medical man,—Miss Martineau's brother-in-law and medical attendant. Let us examine this other instance of "J.'s" skill; and it is really quite as good as any which mesmeric literature affords on the subject of the "instinct of remedies."

"Soon after she was first mesmerised, I was undergoing my final severance from opiates—a serious matter to one who had depended so long and so desperately upon them. As I have said, I got through the day pretty well; but the nights were intolerable, from pain and nervous irritations, which made it im-

possible to rest for two minutes together.[1] After four such nights, I believe my mesmerist's fortitude and my own would have given way together, and we should have brought the laudanum bottle to light again, but for the bright idea, 'Let us ask J.!' She said at once what my sufferings had been, and declared that I should sleep more and more by degrees, if I took—(what was as contrary to her own ordinary ideas of what is right and rational as to mine)—ale at dinner, and half a wine-glass full of brandy in water at night. I refused the prescription till reminded—'Remember she has never been wrong.' I obeyed; the fact being kept secret between *us two*, in order to try, every evening, J.'s knowledge and opinion. She always spoke and advised, in a confident familiarity with incidents known only *to us two*,[2] and carried me steadily through the struggle. I lost my miseries, and recovered my sleep, night by night, till, at the end of the week, I was quite well, without stimulant or sedative. Nothing can be more remote from J.'s ordinary knowledge and thought than the structure of the human body, and the remedies for disease; and, though I was well aware how common the exercise of this kind of insight is in somnambules—how it is used abroad as an auxiliary to medical treatment—I was not the less surprised by the readiness and peremptoriness with which a person, in J.'s position, declared, and gave directions about things which she is wholly ignorant of an hour after, and was during the whole of her life before."

So that the sum total of the results of "J.'s" remedial instinct is that she advises a little ale and brandy for the "sinking" and "distress" caused by the want of the well-known opiates! It seems incredible, but is, nevertheless, the simple fact. The girl's power in curing diseases, is, in general terms,—just as in Teste's, Townshend's, and all other cases,—asserted to be great,—but this prescription of the "ale and brandy" is positively the grandest effort of her skill related. It is at once ludicrous and pitiable to see a noble intellect so warped and obfuscated, as to place so puerile a statement before the public. If the ale and brandy had not been suggested by Mr Greenhow himself, or Mrs Arrowsmith, at the foot of the garden, or the mesmerising maid, or the clergyman's widow, it would at any rate occur to the girl herself. The use of both ale and brandy is well known in the Front Street of Tynemouth, and we can only hope that the ale was Bartleman's double stout, and the brandy Crighton's pale. We would suggest the application of mesmeric names to these liquors for the future, and perhaps, "Miss Martineau's sleeping draught," and the "Clairvoyant Cognac," may become popular on the banks of the Tyne. Our readers will agree, that in this case,

"To be grave exceeds all power of face,"

and that we can only meet the mesmeric statements as to the "instinct of remedies," with a smile. Mr Greenhow, in his excellent account of Miss Martineau's case, in which, without at all attacking mesmerism, by a simple statement of the course of the malady, he demolishes the whole of the mystical structure which the patient has reared,—Mr G. we say, dismisses the "ale and brandy" very cavalierly. "Last night she slept well, having taken a small quantity of brandy and water." Our readers are aware that the disease under which the distinguished authoress labours, is retroversion of the uterus, caused by enlargement of its body. Truly glad should we be to learn, that by means of any treatment, she was restored to health and strength. It is painful to us to know, that however much hope and fancy, acting in connection with the mesmeric passes, have improved her general health, the disease itself has not yet been removed to an extent, such as her letters on mesmerism would lead us to suppose. As her complaint is one which, according to the experience of Sir Charles Clarke, has been known to "subside," we trust she will "hope on, hope ever," and we devoutly pray, that her hopes may be

[1] In October, then, Miss Martineau's "nights were intolerable;" yet a few pages back she declares, that from the first (viz. June 22) "she went on well,—that she had been spared all the weaknesses of convalescence," &c.

[2] "Nos duo turba sumus."—*Ovid.*

realised. Meantime, in illustration of the subject before us, we quote the following paragraph, which describes the state of the disease at the latest period to which the report extends.

"December 6.—Again I made a careful examination into the state of Miss M. The fundus uteri is more disengaged than at the last examination, and admits of being raised somewhat higher. It is certainly *less fixed*, and in this respect has improved at each time of examination since April 2, when the first degree of improvement was observed. The retroversion continues, the fundus still extending towards the sacrum, while the os uteri approaches the pubes—the organ remains large and firm, and is yet turned back nearly at a right angle from the cervix uteri. The two membranous pendicles remain hanging out of the os uteri, as at the last examination. The health is represented as quite good, and the catamenia as regular, the nervous pains and irritations having all subsided. The person is less full, but, as abdominal distention depended principally upon the gaseous and other contents of the intestines, and, in a slight degree only, on the uterine tumour, it is probable that renewed habits of activity have greatly contributed to restore the symmetry of the person in this respect.

"I have endeavoured to render the preceding sketch comprehensive and concise, avoiding equally unnecessary details, and omitting nothing essential to the full comprehension of the true character of the case. Knowing well that no symptoms of malignant disease of the affected organ existed, I always believed that a time would arrive, when my patient would be relieved from most of her distressing symptoms, and released from her long continued confinement. The catamenial crisis appeared the most probable period, but I did not despair of this happening sooner; *though she never willingly listened to any suggestions of the probability of such prospective events, and seemed always best satisfied with anything approaching to an admission, that she must ever remain a secluded invalid.*" P. 20.

Who does not see, in the sentence we have placed in italics, a condition of mind in itself calculated to keep the patient confined to her room, to demand opiates, and to produce much of the "sinking" and "distress"? And so soon as by means of any stimulus, hope in the curative power of mesmerism—or any other sufficiently strong—this gloomy, despondent state of mind had been removed,—who would not expect to hear of her giving up the opiates, and of her consequent improved digestion, health, and general habits? Mr Greenhow further remarks:—"In the history of this case it is probable that the advocates of mesmerism will find reasons and arguments in support of their opinions. But the experienced practitioner, carefully distinguishing the *post hoc* from the *propter hoc*, will have little difficulty in bringing the whole into harmony with the well-established laws of human physiology."

We have been thus minute, because it seemed, even at the expense of being charged with tediousness, to be our duty, to quote at length this particular case. In the whole of mesmeric literature, we have met with no case of equal importance to that of Miss Martineau. The poultices of Teste, the rose water lotions of Townshend, and the vague generalities of other mesmeric practisers, are mere trifles compared to hers. As to the table of diseases cured or relieved by mesmerism, of which, on April Fools' day, there is a very circumstantial one given in the *Critic*, signed by "Humanitas," and as to the reports of cures of nervous diseases in the *Zoist*, we cannot place the least reliance on them. To authenticate facts like these, we must not only have the names of the observers and recorders,—but these must be medical men, and medical men *known* to be clear and cool headed, experienced in disease, and not apt to be carried away by enthusiasm, nor dazzled by theory. From such evidence alone would we give credence to the alleged powers of any new remedial agent; we are surely, therefore, justified in demanding it in the case of mesmerism. We have in Miss Martineau, however, a lady of talent and veracity, (whose malady every educated person in England knew and lamented to be of a serious nature,) recording her own sensations, stating circumstantially her progress from sickness to health, and giving her unqualified assertion, that mes-

merism alone had effected her cure. The case has been triumphantly quoted by believers in mesmerism, times innumerable, as proof of the remedial skill bestowed by the science. It is fortunate, therefore, for the sake of truth, that we possess a simple medical report of the case. Every one capable of judging, who has read this report, must see the lamentable weakness and credulity of the ladies who have so prominently placed themselves before the public, and who long ere this have, we dare say, felt bitterly the consequences of their imprudence.[1] It is unnecessary to give other cases of the "instinct of remedies." After having very carefully read a great number of cases, and having had others under our personal observation, we find the faculty of the remedial instinct not to be supported by any evidence whatever, which is not still more strongly adduced in favour of any Universal Medicine, or *Elixir Vitæ*.

The cases of reported cures in mesmerism may be divided into two classes; for though there are individual cases which will not come under either division, the great mass may be so arranged. Hysteria in various forms supplies the first and largest class; and of these many doubtless recover during the progress of the treatment, while a few are no doubt benefited by the moral influences set at work by the peculiar remedy employed. The second class consists of trifling cases, which would have recovered without any treatment, and of organic diseases asserted to be cured, the reports of which seem to us, however, not to be credited. In Miss Martineau's case, strong faith, hope, and fancy, were all on the side of the "passes:"—these roused her from her torpid condition, enabled her to give up the opiates, from which in all probability much of her misery sprang, and, by chasing away the despondency and gloomy *desire for despair* which she cherished, as many other long secluded invalids do, left her mind free to the genial impulses of nature, and her body to the salutary operation of the natural laws. Once more, out upon the golden sands of Cullercoats, with the fresh sea breeze upon her cheek, and hope swelling and beating time in her heart to the music of the billows, as they joyously scattered their silver foam at her feet; once more, enabled to look abroad on the earth and upwards to the sky, and to draw the long deep inspirations of returning cheerfulness, and her disease, so far as it was not organic, was already removed. She says herself, that without any of the tediousness of convalescence, she was "carried through." This shows that the cause must have been a moral one. We presume, that neither she nor any other mesmerist will assert, that the passes could at once diminish the body of the uterus, or suddenly shorten the ligaments of that organ.

In other cases of a hysteric nature there can be no doubt that the emotions excited by mesmerism have had,—as hope, fear, fancy, and grief, have at all times had,—very important results. In the times of Mesmer, and of the *baquet*, when numbers of persons were operated on at once, and when by music, darkened rooms, and mystical devices, the imagination of the excitable patients was made to run wild,—the most tremendous effects were found to result from mesmerism:—convulsions of the most dreadful kind,—evacuations,—cries,—embracings,—sobbings,—an entire abandonment of themselves, and often deep and con-

[1] Since the above was written, a break-up has taken place in the mesmeric camp at Tynemouth. Miss Martineau's friend has discharged her mesmerising maid for not carrying a letter to the post-office, and for making disturbances in the house. Truly, as Miss Martineau *naively* says in her letters, "the subordination is in the wrong party, when the maid mesmerises." The petted manner in which Miss M.'s friend, the "clergyman's widow," we presume, complains of the the medical gentlemen who exposed the doings at Tynemouth, for hinting the cause of her dismissing her servant, is highly amusing; and the manner in which Miss Martineau herself abandons the case, without admitting the deception, is not what we had expected from her. These ladies have voluntarily placed themselves before the public, and they must abide the consequences. As the case stands at present, a more lame and impotent conclusion was never come to than to this, one of the best authenticated and most generally accredited mesmeric marvels which have ever been made public.

tinued insensibility attested the powerful nature of the agencies employed.[1] All these were then—as the sleep and curative effects are now, ascribed to mesmerism, to some occult influence proceeding from the operator, in the case of the *baquet*, to the influence of the power proceeding from the magnetized bottles of water, round which the excitable patients,—arm to arm, and knee to knee,—were arranged. Let it be remembered, that the records of Irvingism and of Love Feasts, both in America and England, furnish us with symptoms precisely similar; and that the reports of theRoy al Academy of Sciences, and of the Royal Society of Medicine of France, show by decisive experiments, "*that the imagination without magnetism can produce convulsions, and that magnetism without imagination can produce nothing.*" It is stated also in the secret report, that it was a *feigned* crisis which led to the first real crisis, and thus brought on many others by imitation,—a statement which every medical man who has seen a number of hysterical or epileptic patients in an hospital go off into fits on one of their number being seized, will readily understand.

Various reasons have led to the abandonment of the practice of Mesmerism, as carried on by Mesmer and others in France, so as to produce convulsions and other violent effects. The chief reason, we believe, to have been, that the mode then employed, by strongly exciting the sexual feelings, was found to produce immoral results,—and indeed associations were formed in many large towns in France, called "Societies of Harmony," in which, under pretence of cultivating the science of Mesmer, libertinism became widely extended. This also, we believe to be the reason, why various governments on the Continent have restricted the practice of mesmerism to the medical profession. Many shrewd

[1] The following description of the baquet is taken from the article, before quoted, of Dr Radclyffe Hall:—

"*The baquet.*—An oaken tub, from four to five feet in diameter, and a foot in depth, covered with a lid in two pieces, constituted the *baquet*. At the bottom were placed bottles, with their necks directed towards the centre of the tub, so as to form converging rays. In the centre, other bottles were laid, with their necks in the opposite direction, forming diverging rays. All were corked, and full of magnetised water. There were usually many superimposed layers of these bottles; the machine was then at high pressure, ('à haute pression'). The space between the bottles was filled with water, to which pounded glass and iron filings were occasionally added. The low-pressure baquets, however, were made without water. The lids were pierced with holes for the passage of iron rods, bent, moveable, and of different lengths, so as to be readily applied to different regions of the body. Through a ring in the lid was passed a cord with which the patients surrounded their ailing limbs, carefully avoiding to make a knot. Affections disagreeable to the sight, as wounds, ulcers, and deformities, were (conveniently enough) not admitted under treatment. The patients were placed in rows around the tube, in such a way as to touch each other by the hands, arms, knees, and feet. A cord, surrounding the whole number, kept them in their places. Each applied one of the flexible iron rods to the supposed seat of disease. Meanwhile, gentle strains of music, and occasionally the voice of a concealed opera-singer, stole upon the ear; the air was redolent of the most delicate perfumes; the magnificent saloon, surrounded with mirrors, which reflected on every side the attitudes and gestures of the patients, was so artfully arranged as only to admit of a dim twilight. After these magician-like arrangements had been allowed a sufficient time to produce their effect upon the minds of the patients, who were instructed to preserve the most rigid silence, the assistant magnetisers entered. These were *the handsomest and most robust young men that Mesmer could select*, ('les plus beaux, les plus jeunes, et les plus robustes'). Each carried in his hand a magnetising rod about a foot in length. Their duty was to heighten the effect of the magnetic tub by touching, handling, pressing, squeezing, and earnest gazing, maintaining still the most perfect silence. After the lapse of an hour or more thus occupied, Mesmer himself, arrayed in a robe of lilac silk, and with a grave, majestic air, for the first time entered the room. The less agitated, he *calmed* immediately by a touch of his magnetic rod. Upon the more excited he acted by taking their hands, and so applying his own, that their thumbs and fingers respectively were in contact, at the same time gazing intensely into their eyes, ('en rapport,') or by making rapid movements with his open hands at a distance from the patient, ('à grand courant,') or by crossing and uncrossing his arms with extreme rapidity, ('les passes en définitive').

observers of human nature are of opinion that even now, and in England, the practice of mesmerism would not flourish so greatly, were the poor-law separation system enforced in pursuing the necessary investigations, and that the little *galantéries* inseparable to the practical details of mesmerism as of phrenology, give a zest to those studies, altogether apart from the scientific truths they reveal. On this subject we, however, offer no opinion. According to the method pursued now, the curative effects are said to be produced insensibly, by some mystical and unexplained agency, and without being accompanied by any phenomena except in the great number of cases—the magnetic sleep. Jussieu, one of the committee of the Royal Society of Medicine of France, differed from his associates in some respects on the subject of mesmerism, and drew up a separate report, in which he ascribes the mesmeric action to the animal heat existing in bodies, which is continually emanating from them and passing from one to another. He says, that judging by its effects, it appears to possess the properties of tonic remedies, and in proportion to the quantity communicated and the way it is used, like tonics, it produced injurious or beneficial effects. Now it seems to us undeniable that in many persons an extraordinary state of the nervous system is induced by the mesmeric processes, as well as by others which have been used from the very earliest times, and that sleep or coma more or less deep is the most universally observed phenomenon attendant on their processes. It is plausible to say that the same influence which induces this coma, if less powerfully applied, may soothe and tranquillize an irritable nervous system, and thus effect important remedial results. And were there any evidence to prove the existence of such a power or influence passing from the operator to the patient, we should be disposed to adopt this view, which is quite in accordance with the usual action of remedies upon the system.

But not only is there no evidence to prove that the operator has any means of regulating the "quantity communicated," but there is no proof that any power emanates from him. For not only is the effect of the assumed influence capricious and uncertain in its action, operative only on a few individuals—thus being remarkably different from other agents in nature,—but the results affirmed to be peculiar to mesmerism, follow the simple fixing the eye and the attention on an object elevated above the plane of vision, and that with quite as great certainty in the latter case as in the former. Mr Braid's Hypnotism, and Mr Catlow's brushing of the forehead, show that no mysterious agent is necessary in order to induce sleep, and a variety of other phenomena, ascribed by the mesmerisers to "the passes" alone. Then, there does not seem to be sufficient evidence to show, that this sleep or coma can be lessened or deepened at the pleasure of the mesmeriser, so as to produce any state which might be beneficial to the nervous system.

The intensity of the symptoms seems no more capable of being regulated than are the phenomena of actual sleep. Mr Townshend, indeed, states some cases to show, that "mesmerism is a question of proportional force." But we are not aware of any evidence to prove that proportional doses of mesmerism can be given to different patients, and that these can be regulated at the will of the operator, so as to suit the age, strength, or disease of the operee. Were it even true, that the mesmeric influence were capable of being poured forth at will, still we fear that the impossibility of regulating the "quantity communicated" would render it useless as a remedial agent. We shall immediately speak of

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"*Effects.*—The females, always the most impressionable, experienced first yawnings and stretchings; their eyes closed; their limbs tottered; they felt threatened with suffocation. The sound of the harmonica, the strains of the piano, and the chorus of the singers, appeared to increase the convulsions. Bursts of sardonic laughter, piteous moanings, floods of tears, burst out on every side. The body was contorted with tetanic spasms; the breathing became rattling; all the symptoms more startling. At this moment, the actors in this strange scene ran against one another, amazed and raving; they congratulated each other, embracing with joy, or repelling with horror. The most excited were removed to another room prepared for the purpose. In this, the chamber of the crisis, the choking females were unlaced, and suffered to knock their heads against the padded walls, or to roll about on the cushioned floor."—*Delrieu.*

its assumed value in rendering surgical operations painless. Meantime, we may remark, that "epilepsy, palsy, nervous depression, and madness even," are said to be the diseases in which it is valuable; nay, M. Foissac of Paris not only asserts that somnambulists have almost escaped the pains of childbirth, but that he has seen men "restored to calmness, and finally to health, by mesmeric action, when suffering in the *last stage of spasmodic cholera*." Organic diseases of various kinds have also been cured by the same agency, congenital deafness of thirty years' standing removed, opacities of the cornea dissipated, and contractions of the joints, which for years had resisted surgical skill, have been removed as if by magic! Thus it is, that by proving too much, the mesmerists compel us to refuse to accept any evidence on the subject not supported by other authority than theirs.

Mr John Bovee Dodds of Boston, who has published Lectures delivered by him to thousands of applauding hearers, places the curative power of mesmerism in a somewhat novel light. He believes that galvanism is the mesmeric fluid or medium, and that a full and healthy brain parts with it to that of the mesmerised, until both are in a state of equilibrium. He considers that the brain of all persons can be thus "magnetically subdued;" and that when this has been once effected, the mesmeric state can be afterwards induced at will, in a short time. And not only so, but after the brain is once magnetically subdued, you can then throw the person into the state in five minutes. Yes, a child ten years old can then mesmerise a giant father. Your brain being magnetically subdued, it is worth hundreds of dollars to you. You are then ready for the day of distress. Come what may—toothach, headach, tic doulereux, neuralgia, or any pain of which you can conceive; let some one mesmerise you, and then wake you up, and the pain is gone. The whole process need not occupy more than ten minutes. Should you fall and break your arm, then let some one mesmerise the arm only, which can be done in one minute. You are free from pain; and though in your wakeful state, you can look quietly on, and see the bones put to their places. Your arm can then be kept in the mesmeric state, and thoroughly and rapidly healed without having ever experienced one single throb of pain. Or by simply mesmerising your arm or leg, you can sit in the wakeful state and see them amputated, and feel no pain. But if you neglect to have your brain magnetically subdued, then when the day of distress comes upon you, as it might require several hours to put you into this state, it will then be too late to avail yourself of the blessings which this science is calculated to bestow.

"It is not only a preventative of fits, insanity, and of the most frightful nervous diseases, and a safeguard against pain, but it will cure fits, if no congestion of the brain has taken place. It never fails to remove the ague and fever, however long it may have been upon the individual, and will prevent any fevers prevalent in northern climates, if the individual be mesmerised as soon as the disease is taken.

"Here, then, are opening before us new fields of action, where those who have hearts of benevolence may freely roam at large, and find ample scope for the full gratification of all their sympathetic and Christian feelings, and those who scoff and sneer at this science, do scoff and sneer at human woe and human pain, and know not what they do."

This sweeping mode of preventing and curing disease is quite in "transatlantic" style; and in mesmerism, as in other matters, our Boston brethren are resolved to "beat creation." There is nothing, however, in these theories of Mr Bovee Dods more startling or incredible than in those of M. Foissac, M. Deleuge, or Mr Townshend; and we consider that in quoting them, we are giving our readers a fair representation of the opinions of mesmerisers in the curative power of the passes.

"Chardel also, a French writer on mesmerism, gives an interesting account of two sisters whom he mesmerised, as a physician, with the hope of checking a *tendency* to consumption which they had both evinced. One evening, being in sleep-waking, they, as if prompted by a natural instinct, entreated their mesmeriser to leave them in that state, *only so far demesmerising them as to enable them to open their eyes, and to be committed to their own self-guidance.*

Day after day they renewed their petition, for day after day they felt their health returning under the mesmeric influence. In other respects, they pursued their usual habits, and their mesmeric existence had its alternate periods of sleep and of waking, as regular as those of the natural life. (!) At the end of three months, their cure appearing to be complete, M. Chardel conducted the sisters, accompanied by their mother, to a beautiful spot in the country, where he restored them to a knowledge of themselves. He describes, in lively terms, their surprise and joy on returning to consciousness. It was winter when they entered the mesmeric state; it was now spring. The ground was then covered with snow, but now with flowers. They were then looking forward to an early grave, but now the feeling of renewed health tinged every thing with hope and life; almost doubting if they did not dream, they threw themselves into their mother's arms, gathered flowers and smelt them, and endeavoured, by the exercise of their senses, to convince themselves that it was a blessed reality. *Not a circumstance of the three past months survived in their memory.*"

Here is an extremely pretty mesmeric romance, which requires only to be reduced into scenes, diversified with a clairvoyant song or two, and furnished with the appropriate *denouement* of the young physician marrying one of the young ladies, in order to be adapted for the boards of the Théatre du Palais Royal. We trust M. Scribe will adopt the theme.

The disciples of Mesmer, and others perhaps also, will remind us, that we cannot disprove the truth of the above narrative by thus passing a jest upon it; and the mesmerists, above all, will say, as usual, that we deny the influence of mesmerism in this interesting case, because by it, if true, the science of physic is thrown into the shade.

Our best reply perhaps will be, to say that there are other "infallible" cures of consumption besides mesmerism, and these, too, advocated by well-educated medical men, the value of which we hold to be very much upon a par with those effected by the agency of animal magnetism. Naphtha and cod liver oil —to mention the two latest (and which by the way are sometimes useful),— can boast of cures far more striking and circumstantial than those of M. Chardel.

Dr Pereyra, of Bordeaux, (we quote a French physician out of compliment to M. Chardel), in his little work lately published, "*Du Traitement de la Phthisie Pulmonaire*," narrates cures, not of patients *threatened* merely with consumption, but of one with "an enormous cavity in the upper lobe of the left lung;" another with "two cavities, of some size, at the upper part of the right side." With these, the patients had other symptoms of far advanced phthisis, viz. frequent pulse, copious night-sweats, emaciation, and hectic fever. "How M. Pereyra," says the *British and Foreign Medical Review*, "distinguished the *two* cavities, he does not inform us; a neat piece of diagnosis, however, which would have been worth making public." We also felt a little surprised at the diagnosis of *two* cavities in the upper part of the *same* lung; but ascribed it to the acknowledged superiority of the French over the English in all kinds of fancy work. Dr Pereyra gave this patient, a girl aged eighteen, two tablespoonsfull of the cod liver oil daily, ordered her good food, and a seton to be placed over one of the cavities. Two months afterwards, she returned to the street behind the "Théatre des Variétés," pretty, strong, and ruddy, with "her crude tubercles rather smaller," but with the *two* cavities still in the lung. Three years afterwards, she was admitted into the hospital for another complaint; she had then "no tuberculous sound, the caverns were "*much smaller*,"(!) "and the rest of the lung natural." Other cases are mentioned by Pereyra to prove consumption curable by cod liver oil. But does the intelligent portion of the profession, either in this country or in France agree with him? By no means. When cavities are formed, they place cod liver oil and mesmerism very much upon a level. We had the fortune to see something of Dr Pereyra's practice in the magnificent Hôpital Saint André, in Bordeaux, at the time when he was, as one of his confrères expressed it, "mad after the cod liver oil;" and from one or two specimens of his diagnosis,—*without auscultation*,—of caverns in the lung,—we feel disposed to believe that his evidence, as to the therapeutic

power of the oil, is not much superior to that of Mr Townshend, or M. Chardel, on the curative influence of the mesmeric passes.

While thus, however, expressing our unqualified disbelief in any curative power conveyed by means of mesmerism, from the body or brain of one person to that of another, we are not disposed to think, that the cures ascribed to mesmerism have, in every case, originated in exaggeration, mistake, or wilful falsehood. Though the subject is enveloped in much absurdity and exaggeration, we think that some truth will be found beneath it all. That so many respectable men, professional and non-professional, should have circumstantially recorded cases of cure, would, if there was no truth whatever in the business, be almost as incredible as clairvoyance itself. We believe that a large portion of individuals, by fixing their eyes immoveably upon an elevated object, holding their heads slightly inclined backwards, respiring slowly, and isolating their attention, will speedily feel a greater or less degree of insensibility steal over them. In some the coma will be deep, in others only partial. The whole nervous system will in many persons be singularly influenced by these manœuvres. Now it seems to us not at all impossible, that in irritable conditions of the brain and nerves, this temporary coma may produce beneficial results. In various forms of hysteria, especially, it is reasonable to think, that the exhaustion of the brain, thus brought on, may soothe and tranquillize. If a bandage, bound tightly round the head, will sometimes repress agonizing nervous pains in the scalp, by pressure apparently on the extremities of the nerves, we do not see why we should refuse to admit, that pressure exerted on the roots of these very nerves, as is certainly the case in the coma spoken of, may not also relieve pain. We think this subject is well worthy the attentive examination of the medical officers of hospitals; for there only could experiments on a sufficiently extensive scale be entered upon. The testimony of isolated individuals in private practice will always be looked on with suspicion; but in hospitals, the opportunities are ample, the facility of procuring intelligent medical attendants great, and the evidence thence resulting, being easily corroborated by numbers, would be received with confidence by the profession. Unfortunately, the exaggerations and absurdities of the animal magnetisers respecting their cures have repelled medical men from the subject; but we do not despair of, in no long time, hearing of experiments on a large scale being entered upon, with a view of discovering whether we have not the power, by inducing, and if possible, regulating the coma, of lessening the sensibility for a longer or shorter period afterwards, and thus, perhaps, of securing a new, and valuable remedial agent.

In addition to the physical causes just alluded to, no one will deny, that the moral agents called into operation by means of mesmerism, are calculated to produce important effects upon the animal economy. We have no doubt whatever, that many nervous disorders have been dissipated by the mental excitement—the hope—the faith—the fancy,—awakened and elevated by the mesmeric treatment. The very mystery that invested the mode of cure, would with many patients increase its powers tenfold. But animal magnetism—a fluid or power passing from man to man,—had nothing to do with all this. Diseases have been produced and cured—persons have been killed—by the influence of excited imagination, and *faith* in the expected result. Bread pills and faith have cured cases of hysteria without number; and the well-known effects upon hypochondriacs of reading Buchan or Graham's Domestic Medicine, is to produce the symptoms of many of the diseases which they study. Dr Elliotson thinks ague might be cured by flogging; and the anecdote of the ague patients, (told we think by Dr Heberden), whose fits were kept off by fear of having the actual cautery applied, should they appear, is familiar to us all. We have read of a condemned felon who underwent an experiment, by which his imagination, acting upon fear, caused death. He was blindfolded and bound to a table—veins in his arms and legs were then pricked with a pen—immediately little fountains were made to play, so as to resemble the streaming of blood into vessels—the state of his pulse was remarked on in whispers, as "now it sinks, flutters, fails," &c.; and in short, the result was, that the man, without losing a drop of blood, or suffering the least injury, died upon the table. A medical friend of great intelligence has furnished us with two cases which

occurred in his practice, wherein the conviction of the patients (both working men) was so strong that they would die, that although their symptoms were of a trifling nature, their excited imagination produced delirium and death. This important moral agent, then, is called into operation by the mesmeric processes, and may doubtless be powerful for good or evil. The French Academy, in their Record of Experiments made for the Investigation of Animal Magnetism, in 1784, speak as follows :—" Ce que nous avons appris, ou, du moins ce que nous a été confirmé d'une manière démonstrative et évidente par l'examen des procédés du magnetisme, c'est que l'homme peut agir sur l'homme, à tout moment, et presque à volonté, *en frappant son imagination;* c'est que les gestes, et les signes les plus simples peuvent avoir les plus puissans effets; c'est que l'action de l'homme sur l'imagination peut-être réduite en art, et conduite, par une méthode, *sur des sujets qui ont la foi*.[1] Mr Townshend thinks, that the Academy, so far from here denying animal magnetism, not only allows the phenomena, " but concedes the real question in debate in terms the most explicit." Now it appears to us, that in the words " en frappant son imagination," the Academy distinctly disavows all mesmeric or magnetic agency whatever, and ascribes the phenomena to a well-known and most powerful mental cause.

In a word, then, we do not deny the truth of all the reports of cures given in mesmeric literature. We believe that some of them *may* have been the result of the peculiar condition of the brain, induced by position and exhaustion; and that many *were* the result of *faith* and *imagination*, exciting cheerfulness and hope; but we consider that there is no evidence whatever to prove that any sanatory influence, of the kind called mesmeric or magnetic, passes from the operator to the patient.

Though Mr Braid of Manchester seems to us to be a little carried away by his enthusiasm for hypnotism, and though some of his cures are somewhat startling, yet we think there is much that is valuable in his views, and that the profession is under obligation to him and Mr Catlow for the exertions they have made to take away from the more simple of the mesmeric phenomena the mystery which surrounded them. They show, that the causes inducing the sleep, the stare, the isolation, the monotony, &c., act with tolerable certainty, and that thus hypnotism, animal magnetism, *aut quocunque alio nomine gaudet*, is gradually acquiring that attribute of science of which it has hitherto been so deficient,—exactness. We have no doubt, that as the true portions of the phenomena become divested of the magic and jugglery which have hitherto surrounded them, they will be investigated by great numbers of our medical brethren; and we are not without some hope, that from this extended and searching investigation, good to humanity and to the science of medicine will result.

PHRENO-MESMERISM.

We now come to phreno-mesmerism; and on this subject we shall be brief; because although it forms the chief attraction of the drawing-room and the platform, it is by no means universally admitted into works on mesmerism. The phrenologists, finding themselves assailed on all hands as to the truth of the mapping out of the brain, gladly called in the aid of mesmerism, and the result has been, that mesmerism has smothered this part of the science with too much and with too circumstantial evidence. We consider that the phrenologists have done serious injury to their science, by entering into this alliance with mesmerism. A science, *based at least*, as human and comparative anatomy prove, on

[1] That which we have learnt, or at least that which has been demonstrated to us in a clear and satisfactory manner, by our examination into the magnetic processes, is, that man can influence man, at any moment, and almost at pleasure, by striking his imagination;—that gestures and signs the most trifling may have the most powerful effect;—that the influence of man upon the imagination may be reduced to an art, and conducted according to rule, upon persons who have faith." Mr Braid's system of hypnotism, however, requires no faith. He tells one of his lady patients who pleaded her want of faith, that he did not care about her faith, if she could only sit down and stare. She was speedily hypnotised.

truth, and capable, in all probability, by means of close and laborious observation, of gradually opening up to us more correct notions of the operations of the mind than we at present possess, has thus been travestied, and thrown back in public estimation. The wildest and most fanciful doctrines of phrenology have been attempted to be advanced, by a machinery so clumsy, so ridiculous, so inadequate to the results aimed at, that even the illiterate have treated the attempt with derision, while the lovers of knowledge have been compelled to smile, while they sighed at the folly. Of the innumerable patients who have exhibited the phreno-mesmeric phenomena, that a portion have been guiltless of all deceit, we cordially admit; but we believe that the great majority have been tricksters, who, for the love of money, or a joke, have cheated the operators. We shall give an instance of a case, wherein we believe the patient was guiltless of collusion, and of another, where there was trickery; and these, we imagine, will be found types of all the phreno-mesmeric cases recorded. A young lady, who had been afflicted with chorea for many years, who could not stretch out her arm without exciting spasmodic action, which generally induced the fit, was told that mesmerism would probably cure her. She was in high spirits and hope on the subject, and an itinerant mesmeriser was brought to perform the manipulations. From having had fits daily, she was said to have escaped for some days in succession; her spirits were improved, her digestion was better, and she seemed in a fair way towards recovery. At this stage of her complaint, she was exhibited as one of the marvels of mesmeric power. After a few passes from the mesmeriser, he announced that she was in "the sleep;" and it certainly was difficult to believe, that the being before us, a gentle and pious girl—one who had not left her room for many years—to whom the world and its attractions were dead—and whose pale saint-like features spoke of many a past hour of agony and prayer,—it was difficult to believe that *she* could be willing to deceive. Nor did we believe it. Though in chorea, as in hysteria, in all its forms, it is reasonable and philosophical to suspect deceit, whenever any unwonted phenomena arise, there was something in the placidity and the previously known character of the patient, which forbade us to form this opinion. She displayed,—the assumed position of the organ of Veneration being touched,—a lifting of the hands, face, and eyes to heaven;[1] and on Tune being touched, she sang, in a low voice, a verse of a hymn.

This was all; but if true, this was ample. We should remark, before going farther, that the hope which had at first sustained her having failed, the young lady was, shortly after the scene narrated, as ill as ever. Now, struck with the above phenomena, we made careful inquiry, and found, that although the lady had been often mesmerised before, she had never manifested the phreno-mesmeric phenomena, until she came under the hands of the peripatetic spoken of. He touched Veneration and Tune, *mentioning, at the same time, the results that would follow.* The results followed of course; and any one acquainted with the phenomena of hysteria, of which chorea is a species, would have predicted it *a priori.* Now this was an instance in which there was probably no willing deceit in the patient at least. The operator induced the phenomena by well-known means. We have seen other instances of phreno-mesmerism in which, although no results followed the mere touching of the organs, the appropriate phenomena were manifested when the slightest suggestion was made. And so superior was the suggestion to the manipulations of the organ itself, that on *touching* Combativeness and *mentioning* Tune, we had a song, and on touching Veneration and suggesting Combativeness, we had a pugnacious exhibition. Our belief is, that the patients—hysteric girls or exciteable boys—after gazing intently upwards for a time, feel strange and unpleasant symptoms in their eyes

[1] Mr Newnham, in his lately published work on Human Magnetism, after a well-reasoned chapter against phreno-mesmerism, declares his belief, that the phenomena so designated are to be explained by clairvoyance,—the somnambule displaying the faculties to which the operator, in touching the various organs, silently refers! He has thus drawn down upon himself the maledictions of the *Zoist.*

and head, are confused and sleepy, and closing their eyes either at the command of the mesmeriser, or in consequence of weakness of the eyelids and eyes, are perfectly willing to believe that they are in some extraordinary condition, (mesmeric if the learned call it so), and are also perfectly ready to follow any suggestion made by the operator. The Abbé Faria found it sufficient, after placing his patients in position, to cry "*Dormez!*" and he often succeeded thus in bringing on the mesmeric sleep. Mr Braid in his Neurypnology (see preface and chapter vi.) gives a great number of cases in which the phrenological guns were influenced when the patients were hypnotised. Twenty organs brought out at the first sitting, in patients before sceptical, is more than once mentioned. "Such," says Mr Braid, "is the power of hypnotism." As he is no mesmerist, neither does he hold the phrenological organ theory. He has a theory of his own, of which the following fragments will furnish a tolerable idea. "Philoprogenitiveness, by calling into action the recti and occipito frontalis muscles, gives the rocking motion, and hence the idea of nursing, &c.: pressure on the vertex, by calling into action all the muscles requisite to sustain the body in the erect position, excites the idea of unyielding firmness; veneration and benevolence, from giving the tendency to stoop and suppress the breathing, thus create the corresponding feelings," and so on. Verily, this is a theory more curious than complimentary to the phrenologists, who thus find all their own artillery seized and pressed into the service of hypnotism. We no longer wonder that Mr Braid developed twenty organs at a first sitting; and we cannot help, on seeing the fanciful enthusiasm with which he illustrates this portion of his subject, reflecting, that it is necessary to recollect this quality of his mind, in perusing the list of startling cures which he has narrated. Nevertheless, his little book is curious, and well worthy of perusal. But of the phreno-mesmeric patients, the grand majority, in our opinion, are rogues, with or without the knowledge of their mesmerisers. We have known some instances where the mesmerisers were deceived by the patients; the operators being induced thereto by their own vanity, credulity, and love of effect, and we have known other instances where both mesmerisers and mesmerisees were tricking. Some little time ago a lecturer exhibited four patients to a respectable and numerous audience in a fashionable watering place in England. The catalepsy and phreno-mesmeric manifestations were very remarkable, and even highly satisfactory, to the intelligent audience. One individual objected to the experiments; but he was hissed down. This individual, however, afterwards examined in the presence of a number of gentlemen, the whole of these four patients, and after they had gone through the same manifestations as on the platform, he extracted from them all a confession that they had from first to last been tricking!

As a type of the phreno-mesmeric cases, let us instance one of the above lads, who had for nearly three years, in numerous drawing-room and public séances, displayed phenomena, which, in the opinion of the spectators, incontrovertibly proved, not only the truth of mesmerism, but also of phrenology,—meaning by this the mapping out of the brain.

At 20 minutes past 3 the mesmerisee arrived. His wary look of low cunning showed that he was prepared for scrutiny, and was not to be easily circumvented. By various observations and questions, having succeeded in lulling as much as possible his suspicions of our intentions, we got him to permit us to try to put his arm into a state of catalepsy; in which, after some time, we succeeded. It remained perfectly rigid, and by and by the fingers became white, stiff, and, as he declared, perfectly insensible. We took care to state our great surprise at the curious and extraordinary phenomena, and he appeared convinced that we were fast becoming a convert. (Every old soldier understands the method by which the axillary artery can be nearly occluded, and, consequently, the warmth and sensibility of the arm and fingers reduced in an extraordinary degree.) We now essayed our mesmeric powers,—a good while elapsed before the patient's eyelids closed; he was apparently still a little suspicious, and after divers quiverings of the eyelids, and slow upturnings of the eyes—done in the most accredited manner of the mesmeric platform—he fairly opened his eyes and said, he feared "it would not do." A second attempt, made with more faith, succeeded,

and having been stroked down *secundum artem* for some time, he pronounced himself, on inquiry, asleep; and, furthermore, said—"he would sleep for half an hour if he were not awakened." We now addressed ourselves to those organs commonly known among such persons as this patient,—the dramatic organs,—the organs of the platform and drawing-room,—Tune, Veneration, Firmness, Philoprogenitiveness, Combativeness, &c. With some of these he seemed pretty well acquainted; but in the case of Veneration, he required the slightly prompting question (in the sleep,) "Do you never say your prayers, my lad." Whereupon the impudent and shameless rogue instantly got up, put down his hand to bend one of his knees, *which was a little stiff*, and having kneeled, repeated the prayer—"Lighten our darkness, O Lord, we beseech thee," &c., not inappropriate in the present state of the science. On touching Tune, he sang in a most dolorous croak, "Rory O'More," to an air which Lover, the witty and admirable author of the melody and words, would have been horrified to hear. At Benevolence, he was at fault, until asking him if he never were kind to the poor, he began to fumble in his pockets, but finding nothing there, he remarked, that he had "nothing for the poor man." At Firmness, he always stood lumberingly erect, and on the finger being withdrawn, he always fell as lumberingly down. In falling, however, both in the public and private *séances*, he always reminded us of Dr Elliotson's description of the manner in which the sham-epileptics fall: "They never fall against the bars of the fire, or where they can be hurt, but they lie down *like a cow*, carefully and quietly." At Philoprogenitiveness, he moved and strained forward, saying, there was a child there, but he could not get at it. By and bye, having exerted himself in drawing it to him he said, "It is coming;" he then moved his hands as if scooping up the child, and then began dandling the ideal darling upon his knee, and singing "Lucy Long." At Combativeness, he went through the whole of his manœuvres as seen at the public exhibition, and with which the lecturer and his audience seemed so well satisfied. At Destructiveness, he always slapped his thigh with spite and vehemence, as if knocking off a wasp or reptile. At Imitation, he spoke short French and Latin sentences. The patient, no doubt, felt that we were now confirmed in the truth of phrenomesmerism. We therefore awakened him, by blowing on his breast and arms, according to the rule in such cases made and provided; and, finally, dismissed him with half-a-crown, evidently under the impression that he had cheated the Doctor handsomely. His mesmeric pretences on being awoke, his rubbing his eyes, and stretching himself, were the very essence of lubberly knavishness. Next day we procured three more of the boys who had been shown at the lecture, and mesmerised one of them before a friend. So slyly did this boy conduct "the phenomena," turning up his eyes until they presented the ghastliness which Mr Townshend asserts is characteristic of the mesmeric state, that our highly intelligent friend, though warned beforehand that the whole was a trick, declared his belief of the reality of the manifestations, and was only induced on the confession of the boy to give up his opinion. Two days afterwards, we brought the whole of these patients before a few friends in a private *séance*, wherein there were two devout believers in mesmerism. The whole of the patients went into the sleep, and showed all the "manifestations" which they had exhibited at the public lecture. One by one, after they had shown these manifestations, they confessed, on being threatened with justice, that the whole was trick. It was objected by the mesmerisers, who, of course, were much annoyed by the exposure, that this was not a fair way to procure evidence; but in what other way could it be wrung from knaves? One of the lads was nineteen or twenty years of age,—old enough to despise all fear of justice, unless he were conscious of guilt. The details of these confessions were highly ludicrous and circumstantial, and showed the *modus operandi* of preparing patients for mesmeric lectures in a new light. Moreover, the whole of the patients, some days after their exposure, when under no fear whatever, but when the whole business was treated as a jest, signed a document to the effect that they had never been asleep, and that the mesmeric influence had passed—in the shape of small silver coins of the realm—from the lecturer to themselves, the common "mesmeric medium," we suspect, of the platform. A curious phenomenon occurred in the examination

of the eldest lad, who had for so many years carried on his system of deceit. On touching Combativeness, he struck out with great energy, whereupon we gradually wheeled him round to the wall, and *powerfully exciting the organ*, he was compelled to strike vigorously, or subject himself to suspicion. Accordingly, he struck the wall a smart blow or two. We here cried to the spectators, "Behold a true mesmeric case; would this lad injure himself *if he were sensible?*" The patient, on this, of course, struck out more decidedly, hitting his knuckles pretty severely against the wall. By and by, however, finding the ordeal too severe, (for, we confess, the experiment was so interesting, that we prolonged it,) the phreno-somnambule *opened his fists*, and shot his flat hand in a slanting direction upon it, to the great chagrin of the mesmerisers present. Then, by way of bringing the business to a close, he attempted to strike a portrait of our respected teacher, Liston, which happened to hang near him.[1] At the public lecture, his legs had been catalepsed, and half-a-crown was placed before him, which he was to have by stooping for it. We were sorry not to have proposed at the time, that a few sovereigns should be put down by the lecturer; it would have punished him appropriately; for, on being asked in his confession what he would have done had five guineas instead of half-a-crown been thrown at his feet, the somnambule replied, with the genuine sparkle of gratified low cunning, that "he would have picked it up, and laughed in the lecturer's face."

In fine, the result of our inquiries into the subject of phreno-mesmerism has been to convince us, that a few persons in perfect good faith have shown certain manifestations on the corresponding organs being touched, from an association in their own minds between the organ manipulated and the effects expected to arise;—these have had some knowledge, however trifling, of the phrenological organs; that the greater number of those who have exhibited phreno-mesmerism in good faith, have had, in the first instance, the manifestations suggested to them, and have afterwards imitated those manifestations on the same organs being touched,[2] "*ipsi sibi somnia fingunt;*" and that the grand majority are tricky boys, or hysteric girls, who partly dupe, and partly are duped. Meantime, immense numbers of new organs have been discovered and called into action, so that were Gall and Spurzheim to return to earth, they would find the outlines they drew on the skull so "filled in" by the mesmerists, as no longer to be recognised by themselves.

THE MESMERIC MEDIUM.

It is scarcely necessary for us, after the opinions previously expressed, to enter into the subject of the mesmeric medium, in the investigation of which the philosophical writers on mesmerism have expended so much learning and ingenuity. In the attempt to clear up the mysteries of clairvoyance, &c., the writings of the higher order of mesmerists are full of what Wordsworth eloquently calls,

> "Those obstinate questionings
> Of sense and unknown things,—
> Blank misgivings of a creature
> Moving about in worlds not realised,
> High instincts, before which our mortal nature
> Doth tremble like a guilty thing surprised."

Mr Townshend—one of the most eloquent and acute of those theorists—has lost himself in a German ocean of metaphysics; and swimming about in the mysteries of mind and of life, though he makes many a vigorous dive for truth, he

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[1] When this lad confessed, one of the mesmerisers stoutly asserted that he had been asleep; and the patient as stoutly asserted that he had not—reminding him that in his sham sleep, he had struck the picture, &c. The earnestness with which the somnambule asserted his roguery, and the obstinacy with which the mesmeriser insisted, in spite of his confession, in convicting him of innocence, was a droll exhibition of knavery on the one hand, and credulity on the other.

[2] That ultimate law of the mind, which ordains that the repetition of a definite sensation shall be followed by a renovation of the past feelings with which it was before associated."—HIBBERT, *Philosophy of Apparitions*.

seems to us to grasp nothing but water, which slips from his fingers even whilst he is holding up his prize triumphantly to our gaze.

A notice of mesmerism, however, would not be complete unless it glanced at the reasonings and theories by which men of genius and science have been led to advocate and attempt to explain the wonders of their science. We shall, therefore, very briefly allude to them.

"The sleep-waker, then," says Mr Townshend, "does not *divine* what passes in the mind of others,—he reads it 'by the media and language understood by him alone.' The power of reading this language is elsewhere denominated 'an instinct.' But what is the language, and on what impressed? Mr Townshend believes in the existence of a 'pervading medium' of thought, analogous to the luminiferous ether, or the electric medium; but his medium is infinitely more subtle than the luminiferous ether, and his theory one to which the undulatory is coarse and palpable.

A few quotations from his article on the Mesmeric Medium will place his views fairly before the reader.

"Other points of resemblance between the sentient and the mesmeric medium may be found. It appeared probable that the former, from its action from a distance, and the rapidity of its communications, was, like the luminous ether, of an elastic and vibratory nature,—Now considerations of a similar kind induce us to come to a similar conclusion with respect to the mesmeric medium."

"The idea of a material substance emanating from the body is absurd."

The phenomena of community of sensation are said by Mr Townshend to resemble those of sympathetic vibration produced by tremors of the air. "Mesmeric action is capable of communicating impulses to the human system from a distance." Thus, for example, a note sent to a distance produced mesmeric results upon the recipient! Then Mr Townshend asserts—

"Every thought moves the brain in an appropriate manner." "A pervading medium being allowed to exist throughout nature, (such as the electric), it follows, as a consequence, that every thought which moves the brain imparts motion also to the ethereal medium. Mesmerised persons being in a state of extreme sensibility are cognisant of the motions of finer media than common.

"The motions created by the thoughts of other persons being transferred through the brain, and through a certain medium to the sensorium of a mesmerised person, *are to him intelligible signs of thought*, a language which, though new to him at first, he, by a gradual process of association, gives meaning to, and learns to comprehend."

Thus, then, in brief, Mr Townshend infers,—Thought moves the brain; then, that particular thoughts produce particular motions; then he infers a medium, through which these particular motions are conveyed to the lucid mind of the somnambule; then he infers an intuitive interpretation of all these particular impressions, effected by the particular cerebral motions produced by the particular thoughts, and thus he *explains* the method by which one individual can read the mind of another! Is it necessary to pass one word of comment upon all this ingenious folly?

With respect to seeing objects at great distances, the theories of the animal magnetisers remind us of that of Lucretius from whom possibly they are derived. Lucretius, like Dr Elliotson, was an avowed materialist, and, like him, believed in apparitions, (for what else is it to see the forms of persons distant hundreds of miles?—clairvoyance), though his philosophy obliged him to maintain that the soul and body did not exist separate. Lucretius, indeed, seems to have found it impossible to deny the existence of apparitions, to a belief in which the general superstition of the Romans was extremely favourable; and in order to reconcile it with his philosophy, he constructed one of the most fantastic and unphilosophical theories that ever, before mesmeric times, entered into the mind of man. In his 4th book, l. 33, &c.—De Rerum Natura—he says:—

> "Nunc agere incipiam tibi, quod vehementer ad has res
> Adtinet, esse ea, quæ RERUM SIMULACRA vocamus;
> Quæ, quasi membranæ summo de corpore rerum
> Dereptæ, volitant ultro, citroque, per auras;
> Atque eadem, nobis vigilantibus obvia, menteis

Terrificant, atque in somnis, quom saepe figuras
Contuimur miras, simulacraque luce carentum;" &c.[1]

"Haste we next t' unfold
Those forms minute, a theme connected close,
Term'd by the learned IMAGES OF THINGS:
Forms that, like pellicles, when once thrown off
Clear from the surface of what ere exists,
Float unrestrained through ether. Fearful these
Oft through the day, when obvious to the sense,
But chief at midnight, when in dreams we view
Dire shapes and apparitions, from the light
Shut out for ever, and each languid limb
With horror gaunt convulsing in its sleep."

Mason Good's Translation.

For our own part, as we cannot bring ourselves to believe in any clairvoyant story yet related, we are disposed to think that the mesmeric medium will often be found, (as in the case of the boys related,) to consist of the current coin, and that if it bear any resemblance to the current electric, it is when it is a medium with knavery at the positive, and credulity at the negative pole.

We here close our review of the incredible portion of the mesmeric manifestations, and gladly emerge from the mystic obscurities amid which we have been wandering, to a clearer atmosphere, and a world of realities.

"Now at last the sacred influence
Of light appears, and from the walls of heaven
Shoots far into the bosom of dim night
A glimmering dawn; there Nature first begins
Her furthest verge, and chaos to retire."—*Milton.*

THE SIMPLER PHENOMENA OF MESMERISM.

In the phenomena which we have hitherto examined, there is nothing analogous to what has been heretofore observed and acknowledged as fact; we have therefore looked for more substantial and incontrovertible evidence of the truth of the alleged conditions, and not finding it, we are thrown back on unbelief. We not only find that every possible precaution against error has not usually been taken, but that in the more notorious cases of clairvoyance, some of which we have quoted, wherein it was asserted that the most rigid scrutiny *had* been employed, failure was nevertheless the result. In almost every case of every writer, we find a degree of laxity which would be reprehensible even in the investigation of common phenomena, while generally there is displayed so strong a tendency to adjust the "manifestations" to a preconceived theory, as totally to preclude the probability of the observer coming to correct conclusions.

That phenomena like those of lucidity, the prophetic power, &c., should have attached themselves to mesmerism, no one familiar with the history of popular delusions will be surprised to learn. In all ages of the world powers of this nature have been the attributes of false prophets, and supernatural systems of every kind. From the Magi of Egypt and India, down to Johanna Southcote and the prophet of the Mormonites, the power of foretelling future events, and some of the phenomena of clairvoyance, have been the staple commodities employed.

It is not difficult to trace the origin of the belief in some of these marvels. The authentic reports of cases of highly exalted vision and hearing probably originated the idea of lucidity—the tendency in very excitable persons to the fulfilment of events connected with themselves, which they have foretold, the events being brought about by the very fact of their having foretold it,—has apparently formed the basis of the belief in *prevision;* while the curative power, having been, for obvious reasons, an almost constant attendant on mira-

[1] Lucretius tells us, "that the surfaces of all bodies are perpetually flying off from their respective bodies one after another; and that these surfaces, or their cases that included each other, whilst they were joined in the body, like the coats of an onion, are sometimes seen entire when they are separated from it, by which means we often behold the shapes and shadows of persons who are either dead or absent."—*Addison.*

culous endowments, has naturally been appropriated by the supernatural agency of the day,—mesmerism.[1]

But in the miraculous "facts" themselves there is so lamentable a want of trust-worthy evidence, that although the statements concerning them have been before the public in connexion with mesmerism for sixty years, the belief accorded to them among calm-minded and scientific men, does not seem to have advanced one step since the days of Mesmer.

With respect to the simpler phenomena which remain for examination, strange and curious as some of them are, the state of things is widely different. Conditions of the human body similar or analogous to them have been long known to exist; testimony of the highest kind has placed their existence beyond dispute; and the question only remains,—are these conditions really induced by the agency to which, by the animal magnetists, they are attributed?

We refer to the sleep, the coma, the convulsions, the impaired or lost sensibility, the catalepsy, reverie, and somnambulism.

Writers on mesmerism agree, that the sleep is the most uniform of the phenomena—that many persons are not subject to it—that some of those who are, only go into a semi-somnolent state—that females of excitable systems are most easily affected—that the sleep often deepens into coma, is frequently attended with an altered state of the consciousness—that there is sometimes great elevation, sometimes great depression of feeling—that all the senses are occasionally deadened to all impressions—that sometimes a cataleptic, sometimes a convulsive condition is induced—that a state similar to reverie, wherein the will of the mesmeriser seems to direct the actions of the patient, frequently occurs, and that more rarely a state of genuine somnambulism appears, wherein there is high exaltation of some of the faculties with depression of others—a concentration of the powers on particular objects, with complete apathy in relation to every thing else, the events of which state on awaking are not recollected, but which vividly appear to the mind when the patient is again placed in the state of somnambulism. But let us place the subject before our readers in the words of mesmeric authors of repute.

Mr Townshend, in his 4th case, describes the case of P. S., an under graduate of Trinity College, thus:—"In about ten minutes his eyelids drooped, and closed gradually; his head followed my hand; his features became fixed and rigid; his colour fled, and a dead stillness came over his countenance: the change was the more striking, on account of the usually animated and mobile character of his physiognomy. It painfully resembled the alteration caused by death. Nevertheless, on being interrogated as to his state, he declared that he was well, with the exception of a slight pain in the back of his head, which was shortly relieved by the mesmeric passes. To other questions, he replied, that he did not sleep, but was unable to move or to open his eyes."

Kluge describes six degrees of magnetisation, of which the first three are,—

"1st, The sensation of a current from the head to the extremities; slight redness; increase of heat, ascertainable by the thermometer; perspiration; general ease and comfort.

"2d, Increased heat appearing to the patient to spread out from the stomach as from a centre; pulse becomes fuller and stronger; breathing deeper; there is heaviness, then closure of the eyes, and incapability of opening them. The patient is perfectly conscious, though not always able to speak. Hearing, smelling, taste, and touch, are acute—often extremely so. Sparks or luminous halos, prickings, twitchings, shuddering, uneasiness at the stomach, and sickness, occasionally follow.

"3d, Yawning, stretching, sighing, deep sleep, in which the patient has nei-

[1] The fanatics at the sepulchre of St Paris; the tremblers of Cevennes; the Ursuline nuns, in 1632, possessed by evil spirits; Valentine Greatraks, in Ireland; Jean Joseph Gassner, in Germany; and many other instances are alluded to by writers on mesmerism. Some of these possessed only the curative power; others knew languages they had never studied, possessed the prophetic power, could dive into the thoughts of others, and were insensible to pain. Deleuze, in his *History of Animal Magnetism*, Paris, 1813, shows the influence of mesmerism in some of the most extraordinary of these cases. Credat Judæus Apella, non ego.

ther sensation nor consciousness. Occasionally, tremblings, faintings, convulsions, catalepsy, and even apoplexy."[1]

Deleuze, p. 49 of his *Instruction Pratique sur le Magnétisme*, says, "The person magnetised is compelled to close his eyes,—his eyes are so shut up that he cannot open them, he has a calm comfortable feeling,—he slumbers, he sleeps,—he awakens if spoken to, or else he awakens at the end of a certain period, and feels better. Sometimes the magnetisee passes into the state of somnambulism."

Now, there seems little in all these symptoms, making allowance for fancy, which may not be thus explained:—The fixed stare wearying the eyes, and inducing dimness and dizziness, the exhaustion of the retina, causing dilated pupils and other results, the repressed breathing and the position of the head arresting the return of the venous blood from the brain, and by thus keeping back from it its appropriate stimulus of arterial blood, inducing a comatose state,—the position of the cranium, in reference to the spinal cord, when gazing upwards continuously, by which, we suspect, some pressure upon the medulla oblongata is effected,[2]—these circumstances, together with the isolation of the mind, and the monotony thence resulting will, we think, be sufficient to account for the usual symptoms of the mesmeric coma, without resorting to any mystical influence exerted by man upon man.

At the same time, we by no means deny that, in addition to these physical influences, very important effects are to be ascribed to the moral agencies put into operation by mesmerism. Imagination, with her daughters and handmaids, Fear and Hope, are called into active exercise in mobile minds, by the mysterious acts of the mesmeriser. What class of persons is it which is most susceptible of the mesmeric influence? It is universally acknowledged that hysterical women constitute the grand majority of the somnambules,—and the diseases which are said to be principally benefited by mesmerism, prove that such is the case. Now, patients of this kind are peculiarly liable to be influenced by the presumed supernatural power of mesmerism.

Place a pale-faced hysterical girl in a chair, let some powerful mesmeriser make mystic passes before and around her, let him be placed *en rapport* with her, palm to palm, and knee to knee, and from the sensations physical and mental thus excited in her palpitating bosom, what results are too astonishing to be predicted? Tremors, spasms, convulsions, hysterics, in any and in every shape? Any sensible old matron would declare that such consequences would naturally follow. On a careful examination of mesmeric histories, we find that this is the class of patients which has displayed the most extraordinary phenomena,—young women and boys of an impressionable system, and that all the symptoms which are said to have occurred in persons in good health, are such as, we humbly conceive, may be accounted for by the physical effects of the stare. Our limits forbid us to quote cases in support of this opinion. Now, a very large proportion of persons suffer from the nervous diseases or disorders to which we refer,—epilepsy, and hysteria, in all its forms. The phenomena of these diseases, as described by writers on the practice of physic, are so similar to those of mesmerism, that in quoting Dr Elliotson, Watson, or Mason Good, we seem to be making extracts from Teste or Townshend. In every large town, there are numbers of patients of the kind spoken of, and as they are the persons most capable of being acted on by mesmerism, so they are the very persons who, from their morbid vanity, susceptibility, and love of attracting attention, submit themselves to the manœuvres of the mesmerist. It is not necessary to bring before the attention of medical men, cases to prove that many of the mesmeric conditions are precisely those of hysteria, in some or other of its forms,—chorea, reverie, trance, ecstasis, and catalepsy.

Dr Elliotson, for example, says, in hysteria,—"You will generally find that the insensibility is incomplete,—that the patient has some knowledge of what is going on around." Sometimes boys and men, in very violent emo-

[1] Quoted from an article by Charles Radclyffe Hall, Esq., M.D., in the *Lancet*, February 8, 1845, which we hope will be shortly published in a separate form.

[2] "Pressure upon the medulla oblongata always causes sleep."—MAGENDIE.

tions, exhibit hysteria. "Any woman may have hysteria, if she have but emotion of mind strong enough." "I should suppose there is scarcely a woman who has not had hysteria in some slight degree." "The slightest cause induces it,"—and the mystery and excitement of mesmerism, by "striking the imagination," supplies an ample cause,—*the tendency being already in existence.*

Catalepsy Dr Elliotson describes as "merely a variety of hysteria." Dr Heberden mentions in his Commentaries, a case which presents some points of resemblance to the catalepsy of mesmerism. The woman was 36 years of age. "The pulse and breathing were natural, the eye was fixed, as if she was looking attentively at some object, the arm continued as it was placed for twenty minutes together, and once for a whole hour, and he was told that it would sustain a weight of seven pounds in any posture in which it was placed."

We had marked cases for quotation, and written some remarks to show that the spasm, insensibility, coma, &c., were in our opinion, merely hysterical conditions of the frame induced by the hypnotic stare, modified by the action of imagination, hope, and fear,—in short, by mesmerism—taking the word in a widely different sense from that attached to it by the animal magnetists. These remarks and cases our limits compel us to cancel—which we do the more cheerfully that, since drawing up our views on the subject,[1] a most admirable article by Dr Forbes has appeared in the *British and Foreign Medical Review*, in which the relation of hysteria to mesmerism is enforced and illustrated.

Somnambulism is acknowledged to be but seldom seen. "It is," says Mr Newnham, in his very excellent treatise, on "Human Magnetism," just published, "a comparatively rare phenomenon, and seems only to be found in certain peculiar constitutions, which, doubtless, under favourable circumstances for such disordered function, would become the subject of catalepsy, *natural* somnambulism, &c." M. Bertrand, also, "compares together natural somnambulism, that which shows itself in many diseases, that which is owing to the excitement of the imagination, and that which follows the magnetic treatment, and proves that all present analogous phenomena, and depend on the same cause."[2] We have here admitted, by mesmerists of repute, almost all that we contend for. That somnambulism occasionally, as the other hysteric phenomena, more generally, may,—*the tendency to it previously existing*,—be induced by the agency of the mesmeric passes and position, disturbing the balance of the cerebral circulation, and "striking the imagination," we can readily believe, but instead of classing animal magnetism with the other unknown causes of somnambulism, as if it were that the mesmeric fluid, for this is what is meant, had this specific action on the brain, we think it would be more correct to say, that the patient is so influenced by the state of his brain, and his emotions, that the unknown condition inducing somnambulism is produced.

The insensibility induced by mesmerism has been dwelt on by all writers; and in its relation to disease, and especially to surgical operations, has, perhaps, taken as much hold of the public mind as any of the other phenomena.

Could such an insensibility be safely and surely induced, it would be one of the greatest boons bestowed by Providence upon man. That a certain degree of insensibility may frequently be caused by the hypnotic stare we are convinced, but whether it could be safely induced, so as to be useful in operations, we think very doubtful. Still, this is a branch of the subject which ought to be diligently cultivated, with a view to obtain correct and full information.

The state of the question at present stands thus. It is asserted that multitudes of minor operations have been performed without pain in the mesmeric trance, and that four or five important operations have been also rendered painless from the same cause. With regard to the minor operations, such as those of drawing teeth, and cutting for strabismus, we may dismiss them, as, at all events, not furnishing evidence unequivocally proving the painlessness. For nothing is more common than for a patient to declare, that "they had not felt the tooth come out," and the very sight of the instruments or the sound of the dentist's bell, has frequently dissipated the pain. As to strabismus, we have

[1] Had space permitted, this article should have appeared in our April number. —EDITOR.

[2] See Deleuze "Instruction Pratique sur le Magnétisme," note 7, p. 382.

seen many scores of patients submit to it without complaint; and these too were generally the young women. In the case of Madame Plantin, who had her breast amputated in the mesmeric state—she conversing with the operator all the while, and declaring afterwards that she was unconscious of the operation,—there is unfortunately some doubt, for it is said that Plantin confessed afterwards that she had felt, but had resolved to conquer her emotion. Whether this be correct or not, it is now too late to inquire; but that the feelings may be thus controlled, a fact that the public generally disbelieve, we can furnish many cases to prove.

One most interesting case we give in the words of the intelligent medical friend to whom we are indebted for it.

"When I was a pupil at St George's Hospital, I think in 1811, there was a little boy, some 6 or 7 years old, who had to undergo the operation of lithotomy. He was alarmed; but having, through the great kindness of his nurse, formed a strong attachment towards her, he promised, that if the nurse were allowed to remain in the operating room, he would not only consent to the operation, but would not cry. The humble request was granted, and the little boy, blind-folded, was carried to the operating table, and bound in the usual way. I saw him brought in—I was near him—and could hear every sound of his voice. He wanted to keep hold of the nurse's hand, but that was impracticable; so he called out,—'Nurse, are you there?' 'Yes, my dear.' 'Do not go, and I will not cry.' As the operator's knife was used, the child cried out *in his usual tone*, 'Nurse, are you there?' 'Yes, my dear.' 'I told you, I would not cry; and I won't.' And thus, through this painful operation, he kept talking to, and with his nurse; but no cry, no groan, not a murmur escaped his lips! The impression made upon my mind by this scene will never pass away whilst my powers of memory remain. There was no preparation: it was a self-formed idea: there was no applause or profit to be won:—all was simple nature at its most guileless age." Our friend, whose high character, and strict precision in matters of evidence, render his testimony peculiarly valuable, furnishes another case, in which he amputated the thigh of a man who displayed perfect nonchalance. "No cry escaped him—not a groan—not a sigh—not a movement of the limb. I might as well have operated on inanimate matter." We remember also a man who, during an operation for hernia, displayed entire absence of feeling: it was remarked, that the operator might as well have been cutting a piece of leather. Two cases have been particularly dwelt on by mesmerists. One, an amputation of the thigh by Mr Ward, of Wellow, in Nottinghamshire, the patient being mesmerised by Mr Topham. This is the case which caused such violent discussion in the London Royal Medico-Chirurgical Society. The second case is that of Mary Ann Lakin, whose thigh was amputated by Mr Toswill of Leicester, in the presence of a number of gentlemen, Mr Hollings being the mesmeriser. It stands upon the testimony of all the gentlemen present, that both these patients *declared they felt no pain.* A moaning, all but inaudible, was heard from the patients in both instances.

These patients had both been frequently mesmerised, and had been thus wound up to the operation. It is impossible now to gain the exact truth with regard to these two cases. Two of the gentlemen, in one case, differed from the other, at the time. If the patients were both bent on being notorious, as proofs of the efficacy of mesmerism, we see nothing more wonderful in their suppressing their cries and gestures of pain, than what has frequently been the result of pride or honest resolution. The motive was quite as strong as that which keeps the poor soldier or sailor silent under the lash,—much more powerful than that which enabled the child, whose case we have quoted, to repress all symptoms of the agony which he must have felt.

Perhaps, however, in the girl especially, a state of hysterical insensibility may have been produced, during which, the pain of the operation might not in reality be felt.

Though in Germany, France, and other Continental kingdoms, mesmerism, confined to the hands of the medical profession, has been extensively tried in surgical diseases, we have extremely few cases, in which it is even asserted, that

operations have been performed without pain. This leads us to infer, that the requisite condition can but rarely be induced, and makes us fear, that it will never be capable of being resorted to with confidence in surgical practice. But even if we be able to produce the insensibility with as great certainty and facility as many mesmerists, and Mr Braid by means of hypnotism, assert that it may be induced—we should still have to inquire whether it can be done with safety to the patient. Would there be no danger of convulsions or unmanageable spasm being induced in a state of the nervous system, such as that spoken of? The recollection of a circumstance which took place after the amputation of the thigh of an epileptic patient, excites this inquiry. During the operation, the patient was very quiet,—but it was evident that he was about to have an epileptic seizure. By a strong effort of mind, as he thought afterwards, he was able to keep off the fit; but after he was placed in bed, and the surgeon was just withdrawing his hand from under the stump, after placing it on the pillow, he went off into convulsions, flung the stump violently about in the air, and burst open the plasters, causing fearful hemorrhage. It was necessary, in consequence, to open the wound, and take up two arteries. Now what certainty have we, that in insensibility produced by hypnotism or mesmerism, similar results might not follow? If it is only in hysterical patients that the condition can be induced,—have we not all too frequently seen the insibility of hysteria pass suddenly into convulsive action, to induce us to resort to such a means of saving a patient pain? And with such a *possibility* even before him, would the operator retain his calmness?

To sum up the results of our inquiry, we think there is evidence that the sleep, coma, impaired sensibility, convulsions, and hysterical phenomena, *may* be induced by mesmerism, and many of the same phenomena by hypnotism,—but that their results are caused by the condition of the brain, and the emotions of the patient,—that in short they are caused from within, and are not the result of any specific action or fluid passing from the mesmeriser. With regard to the higher phenomena, we think that there is not evidence before the public, sufficient to justify any rational sceptic in believing one iota of any of them. The fact that many of the professors of the art are men of great intelligence and undoubted benevolence, has made it a somewhat painful task for us to speak of what we believe to be their delusions in the manner which truth demanded,—we console ourselves, however, with the reflection, that the mesmerisers in general have been too liberal in their invectives against our profession, to wish that we should not, in our turn, speak out frankly and plainly. One of them, at our ear just now, tells us that we are bigots—that we shut ourselves out from knowledge by obstinate incredulity—that their science is firm as the pyramids of Egypt, and will stand for ever. To this we can only meekly reply, that their credulity and ignorance is at least as likely as our bigotry to shut them out from knowledge—and that if there is any resemblance between their science and the pyramids, it is, in being based on the sand, and in being a pyramid of error inverted on an apex of truth. D. R. L.

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(second article—vide number for january 1844.)

In our Number for January 1844, we directed the attention of our readers to the subject of Removal of Diseased Ovaries by surgical means, and briefly expressed our opinion, of the operation so far as the cases at that time recorded enabled us to judge. We intended to have devoted a few pages to the farther discussion of the subject at an early period; but having learned from private sources, as well as through the medium of the medical periodical press, of various recent operations which have not been recorded, we have hitherto delayed, in anticipation that the results, favourable or unfavourable, would be fairly given. We now suspect, however, that some of the cases will never find their way into circulation, with the sanction of the operators; and we must therefore deal with the materials before us.

The statistics of an operation, or the results which have followed a considerable number of performances, afford a very fair criterion of its value or safety, and hence, the profession have attached very considerable importance to various statistical contributions which have been published within a recent period, both on surgical and obstetrical subjects. It sometimes happens, however, that, in consequence of peculiar circumstances, only a small proportion, and generally the most fortunate cases, are recorded, and, consequently, no correct data can be deduced from them. For instance, if the operation be of a novel character, of a formidable nature, or unpopular amongst the profession, the fortunate cases are certain to find their way into circulation, through the instrumentality of those possessed of a morbid yearning for notoriety, while the fatal instances too frequently become known only to a very limited circle. The extirpation of diseased ovaries is comparatively a new operation in England,—it is of a formidable and unseemly character, and has been very unfavourably received by the profession generally, and all but unanimously condemned by the press. It has never found favour with the better informed of our brethren; it has only been three times performed in an hospital; and it is a well ascertained fact, that some of the most unfortunate results have not hitherto seen the light. We are not therefore in a position to form an accurate estimate of the operation. Indeed, the results before us require to be received with the utmost caution ; some of the fatal cases have been made public by neutral and disinterested parties, and, from first to last, there has been evinced an evident predisposition to publish the cures, in some instances, even before the immediate consequences of the operation were over, while difficulties, to us

incomprehensible, have strangely enough delayed the appearance of details which could have been given as readily as some of an opposite description, which, we have already stated, have been ushered so prematurely into the world. In a word, we have got all the favourable cases of ovariotomy, and only part of the unfortunate, while we are completely ignorant of the ultimate consequences of the operation.

In proof of these assertions, we adduce the testimony of a member of the Royal Medical Society of London. When the subject of ovariotomy was under discussion, Dr F. Bird, an individual who has frequently performed the operation himself, said, "It was deeply to be regretted that the profession were unable to form any correct opinion on the subject. From motives that could not be too strongly censured, unsuccessful operations had been most carefully suppressed, whilst those in which a happier termination occurred, had been hurried into publicity, even before the patient had fully recovered, and whilst the ligatures were still contained in the abdominal cavity. . . . Within the last few weeks, the abdomen of a patient had been laid open, in which no tumour was contained; in another example, in which the operation had been performed, death had been ushered in with all the symptoms of strangulated intestine; in another, in which the abdominal section had been employed, the patient had quickly died; yet had all these cases been carefully concealed, whilst those in which recovery had taken place were made the subject of daily advertisements."—*Lancet*, June 15, 1844.

In addition to the three unsuccessful cases referred to by Dr Bird, information respecting others of a similar character has reached us, which we trust will speedily be made public. We certainly do not maintain that it is the duty of every operator, on all occasions, to proclaim his own mistakes or misfortunes, but seeing that attempts have been made to establish ovariotomy as a safe and legitimate operation on the basis of statistical evidence, and seeing also that there is good foundation for the belief that these attempts have been so far successful, and have led to operative procedure, entailing much wretchedness and misery, we consider it to be a duty which every professional man owes to his brethren, as well as mankind in general, to lay the results of his experience in the performance of this operation fully, fairly, and impartially before the profession. Silence will not be even charitably construed, and concealment is not likely to prove eventually successful. The results of private are more easily kept quiet than those of hospital practice; but on this subject public curiosity has been excited,—proceedings have been somewhat narrowly watched, and we doubt not that, sooner or later, the secrets of the ovariotomists are destined to come to light. Dr Clay, the recorder of the last mentioned case,—a *successful* one,—states that he has been induced to publish it, somewhat out of the order of precedence, at the request of his patient, who was anxious to see it recorded as early as possible. We do not mean to question the validity of the excuse. It proves, however, that a little *pressure from without* occasionally influences the disclosures of the medical, as well as of the political world; and as many of the subjects of the *non-recorded* cases no longer survive to press their claims, may we urge the patrons and supporters of this operation to lay a true and faithful account of the last eventful epoch of their existences before the public, for the instruction and benefit of the survivors?

When *all* the cases are reported, we may again revert to the subject; at present we intend to give a tabular view of such as have appeared, and a brief commentary thereon.

The following Table gives an outline of all hitherto published, so far as we know :—

Name of Operator.	Age of patient.	Extent of Incision.	Adhesions	Operation not completed.	Error in diagnosis.	Result.	Character of the mass removed, &c. &c.
1. L'Aumonier.	...	4 in.	...	...	...	Recov.	The sac of an abscess situated in Fallopian tube and ovary.
2. M'Dowell.	...	9 in.	None.	...	...	„	The tumour was tapped, and 15 lbs. fluid evacuated. The solid portion weighed 7½ lbs. Found engaged in making her bed on the fifth day!!
3. „	...	Large.	Adhesions to uterus and bladder.	Punctured, but cyst not removed.	...	„	Both ovaries were diseased and adherent. Profuse hemorrhage followed the puncturing. Tumour re-appeared, and was as large as prior to the operation six years afterwards.
4. „	...	„	Adherent to left side.	...	...	„	A schirrous mass, nearly solid, weighed 6 lbs.
5. „	...	„	Adherent.	...	...	Died.	*Causa mortis*, Peritonitis.
6. N. Smith.	33	3 in.	Adherent to the parietes of abdomen.	...	...	Recov.	The tumour simply incommoded her when stooping. It was tapped, and 8 lbs. evacuated. The sac weighed between 2 and 4 ounces. Disease of 6 years standing.
7. Lizars.	27	Large.	...	...	No tum.	„	Ovaries and uterus perfectly sound.
8. „	36	„	None.	One diseased ovary left.	...	„	The other ovary was enlarged to a fourth of the size of the one removed, and adhered to uterus and pelvis. Some hemorrhage after dressing.
9. „	25	„	Adhesions to parietes of abdomen, colon, and brim of pelvis.	...	...	Died.	Tumour weighed 7 lbs. *Causa mortis*, Gangrene.
10. „	34	„	Adhesions.	Not removed. Solid and cartilaginous. Vascular on the surface.	...	Recov.	Ovarian tumour? More probably omental.
11. A. G. Smith.	30	Small.	...	...	...	„	The contents were evacuated, and the sac removed.
12. Quittenbaum.	...	About 4 in.	...	...	...	„	
13. Dohlhoof.	27	Large.	Strong adhesions.	Not removed.	...	Died.	
14. „	23	Small.	...	...	...	„	Tumour punctured, and 15 pints evacuated. Sac removed. *Causa mortis*, Peritonitis.

Name of operator.	Age of patient.	Extent of Incision.	Adhesions.	Operation not completed,	Error in diagnosis.	Result.	Character of the mass removed, &c. &c.
15. Dohlhoof.	23	5 in.	...	...	No tum.	Recov.	
16. Granville.	27	7½ in.	Strongly adherent.	Not removed.	...	Recov.	Urgent symptoms for several days.
17. Granville.	...	...	..	...	...	Died.	*Causa mortis*, Peritonitis ? or over depletion ?
18. Ehrhartstein.	36	...	None.	...	...	Recov.	26 lbs. solid, and sac tapped before extraction.
19. Galenzowsky.	27	Small.	Adhesions.	Not removed.	...	„	The tumour was cut into, and a tent introduced.
20. Dieffenbach.	40	Large.	...	Not removed.	...	„	Very vascular. Puncture followed by profuse hemorrhage.
21. Hopfer.	47	„	Adhesions.	...	...	Died.	Ovarian tumour, complicated with ascites.
22. „	38	„	„	...	...	Recov.	The tumour of a malignant character, and 7 lbs. weight.
23. Martini.	24	Small.	Strong.	Not removed.	...	Died.	Several times tapped, and injected.
24. Chrysmar.	38	...	„	...	...	„	Tumour and ascites. Uterus and liver diseased.
25. „	47	...	Strong adhesions.	...	...	„	A cartilaginous and lardaceous mass. *Causa mortis*, Peritonitis.
26. Macdonald.	...	Large.	None.	...	...	Recov.	Weight 22½ lbs.
27. Chrissmann.	...	„	„	...	...	„	Weight 8 lbs.
28. Jeaffreson.	40	Small.	„	...	...	„	
29. King.	37	„	...	...	...	„	27 pints evacuated before extraction.
30. „	...	„	...	Not removed.	Omental tumour.	„	Not interfered with.
31. „	40	7½ in.	...	...	No tum.	„	
32. West.	45	2 in.	None.	...	...	„	20 pints evacuated by tapping.
33. „	23	Small.	...	...	...	„	24 pints evacuated by tapping.
34. „	40	„	Adhesions.	Not removed.	...	„	
35. „	24	„	...	...	...	Died.	Frequently tapped previously. 11 gallons removed.
36. Hargraves.	40	„	Adhesions.	...	...	„	Multiloc. cysts.
37. Alban Smith.	30	Medium.	...	...	...	Recov.	Tapped and removed.
38. Groth.	...	Small.	...	...	...	Died.	Partially evacuated before extraction.
39. Stilling.	22	6 in.	...	...	...	„	*Causa mortis*, Hemorrhage.
40. Phillips.	23	2 in.	None.	...	...	„	330 oz. of fluid evacuated.
41. Clay.	46	27 in.	Slight adhesions.	...	...	Recov.	Ascites, fluid 7 pints; tumour 17¼ lbs.
42. „	67	14 in.	Many do.	...	...	„	Tumour 5 lbs.

44. „	40	14 in.	„	...	...	Died.	Hemorrhage.
45. „	22	14 in.	Adhesions.	...	...	Recov.	Tumour, 26 lbs. weight.
46. „	40	„	None.	...	...	Died.	
47. „	47	Large.	Large adhesions.	Not completely.	...	„	
48. „	43	„	„	...	...	Recov.	Tumour, 31 lbs.
49. „	45	„	„	...	...	Died.	Hemorrhage.
50. ...	59	„	„	...	...	„	Tumour, 54 lbs.
51. ...	45	„	„	...	...	Recov.	Hydatid tumour, 16 lbs.
52. ...	58	„	„	...	...	Died.	„ „ 24 lbs.
53. ...	...	„	„	...	...	Recov.	„ „ 26 lbs.
54. ...	49	„	„	...	Uterine tumour.	Died.	Uterus, except cervix and ovaries, removed.
55. ...	35	14 in.	None.	...	...	Recov.	Patient had been six times tapped. 24 lbs. fluid evacuated the day prior to the operation, and 6 lb. at the time. 9 lbs. solid tumour.
56. Case in Guy's Hospital in 1839.	...	Small.	Slight.	Partially removed.	...	Died.	
57. Walne.	58	Large.	None.	...	...	Recov.	Weight of tumour 16 lbs. Fluid and solid. Some parts of a schirrous hardness.
58. „	57	„	None.	...	...	„	Tumour 16¾ lbs.
59. „	20	„	„	...	...	„	Tumour, 28 lbs. "A single principal cyst; a moderate portion of solid matter in a highly vascular condition."
60. „	54	5 in.	Adhesions.	Not removed.	...	„	5 gallons of ascitic fluid. Tumour 14 lbs. Cysts of various sizes. Some moderate-sized cheesy nodules. In this case an indolent fibrous tumour of uterus, nearly the size of a full-grown fœtus, occupied the pelvis.
61. „	45	15 in.	None.	...	...	Died.	
62. Southam.	37	9 in.	Adherent to omentum.	...	...	Recov.	14 lbs. of ascitic fluid. Tumour 4 lbs. 12 oz. A good specimen of cystic sarcoma.
63. Key.	19	Large.	None.	...	...	Died.	Tumour, 24 lbs.
64. B. Cooper.	32	„	Few adhesions.	...	...	„	Tumour, 32 lbs. Previous tapped. *Causa mortis*, Peritonitis.
65. Greenhow.	29	„	Adhesions.	...	...	„	Tumour, 12 lbs. solid.
66. Rogers.	20	„	Firm adhesions.	...	...	Recov.	The patient had been tapped 7 times. The solid part of tumour weighed 3½ lbs. Case published on the 28th day!
67. Bird.	35	Small.	None.	...	...	„	3 gallons of fluid evacuated.
68. „	20	„	„	...	...	„	A bucketful of fluid evacuated.

Name of Operator	Age of Patient.	Extent of Incision.	Adhesions.	Operation not completed.	Error in Diagnosis.	Result.	Character of the mass removed, &c. &c.
69. Bird.	35	Moderate.	Considerable adhesions.	...	...	Recov.	Tumour 35 lbs. Gelatinous.
70. „	20	Small.	None.	...	...	„	A bucketful evacuated.
71. „	...	„	Large adhesions.	Not completely removed.	...	„	
72. Lane.	...	8 in.	Large do.	...	...	„	Tumour tapped some days before the extirpation.
73. „	44	7 in.	Adhesions.	...	...	„	Tumour partly solid.
74. „	...	...	Adhesions.	...	...	Died.	
75. Heath.	46	Large.	...	...	Ovaries not diseased.	„	Fibrous disease of uterus. Ligature round cervix uteri and mass removed.
76. Morgan.	...	Small.	Adhesions.	Not removed.	...	„	
77. Froriep.	48	Large.	„	Only partially removed.	...	„	Fatal on the 6th day.
*78. A. B.	...	„	Adhesions.	Not removed.	...	„	
*79. C. D.	22	Small.	...	...	No tum.	Recov.	
*80. E. F.	...	Large.	Adhesions.	...	...	Died.	
81. Ritter.	31	„	„	..	...	Recov.	Tumour, 12 lbs.
82. Atlee.	25	„	...	...	...	„	Both ovaries diseased, and removed.
83. Warren.	40	...	None.	...	..	Died.	Tumour, 25 lbs.
*84. A. B.	...	Large.	...	...	...	„	
85. Case in Gooch.	...	6 in.	...	...	No tum.	Recov.	
86. J. D. Bowles.	25	9 in.	In front, and to uterus and bladder.	...	...	Recov.	Tumour weighed 5 lbs. Its external appearance resembled the human brain enveloped in the pia mater; the interior solid, and of a dense white appearance.
†87 M'Dowall.	...	...	...	...	...	Recov.	Scirrhous mass, 5 lbs. in weight. Profuse hemorrhage.
88 Chrysmar.	38	Large.	...	...	...	Recov.	Well 8 years afterwards, and had given birth to a child.
89. W. B. Page.	33	4 in.	None.	...	...	Recov.	Tapped and extracted.

* Cases referred to by Phillips in Medico-Chirurgical Transactions, vol. xxvii.
† Reprinted in American Journal of Medical Science for January 1845.

It thus appears that the abdomen has been laid open for the purpose of removing diseased ovaries in 89 cases; and that 55 individuals have recovered, and 34 perished from the immediate consequences of the operation; but the number that have been restored to health, and have escaped the ultimate, as well as the immediate, consequences of the disease and the operation, has yet to be ascertained. But let us take a more minute inspection of the details presented by the table.

I. *Fifty-five out of eighty-eight Cases, are reported as Cures or Recoveries.* The general statement is by no means very discouraging; at least, results equally unfortunate, have followed accredited and popular surgical operations. But are no explanations or qualifications requisite in reference to the results as they appear in the table? Have all the cases designated by the various operators or reporters, cures or recoveries, terminated in the removal of the encumbrance of an ovarian tumour, and the restoration of health and comfort? An analysis will show.

The first case may be, *in limine*, discarded from the list, as the operation consisted simply in the unnecessary removal of the sac of an abscess after delivery.

II. *In five out of the eighty-nine Cases, the Abdomen was laid open, the Viscera inspected, and no trace of Ovarian Disease, or Tumour of any kind, discovered!* —The results must have been at the time extremely mortifying to the operators; and to the friends who assisted with their counsel and their hands. We have heard it insinuated, that such a flagrant mistake could only have been perpetrated by parties grossly ignorant of the science of diagnosis in general, and of uterine and ovarian affections in particular; but such a charge is best refuted by a reference to the names of the parties who were most particularly, and personally responsible for the mistake; and, it must also be recollected, that their error was sanctioned, and participated in, by several parties of respectability and influence in each instance. Indeed, the first individual on whose shoulders this distressing mistake descended, seems to have been particularly careful to avoid every source of error. He informs us that he consulted the most talented and experienced of his brethren in the Scottish Capital;[1] that all agreed that the tumour was a diseased ovary, but all repudiated the idea of an operation. This cautious, and we think judicious counsel, was not acted on. Mr Lizars, surrounded by a chosen band of enthusiastic explorators, laid open the abdomen, when lo! as if by some wizard's spell, the object of their anxiety had totally disappeared,—the uterus and ovaries were found perfectly normal!! It might have been imagined that such a mistake, committed by gentlemen of no mean experience and reputation, would have cooled the ardour of future adventurers in this *terra incognita;* but no,—like London Cockneys, and the Cornish mines, the temptation of lucre, or the "bubble reputation" which might reward the advocacy and practice of this operation, have proved too powerful for some judgments, and the Tragedy (we wish we could say the Comedy) of Errors has been swelled considerably, and we fear is destined to be still further augmented. The chief practical lesson inculcated by such unfortunate mistakes, is the great difficulty in forming a correct diagnosis. Mr Lizars does not, from his own account of the case, appear to have been rash or inconsiderate, although Mr Liston seems to say so, in the following passage: "The first case," says he, "operated on in Edinburgh was that of a woman who had been at one time under my care. She was treated for an abscess of the loins, connected with disease of the spine. There was a considerable excurvation of the spine; she was a puffy, podgy, little woman; she had an exceedingly protuberant belly. She recovered from the effects of the disease for which I treated her; the bones had grown together, but her stature had much diminished; she then complained of a swelling in the abdomen, and got into the

[1] Dr James Hamilton, the late Professor of Midwifery, and a person of some note at the period in Edinburgh, denied having seen the case.

hands of Mr Lizars. He proposed to open the belly: she came to consult me, and, in fact, to beg that I would perform the operation. I declined; and by every argument that occurred to me, endeavoured to persuade her not to submit to it. She did not, however, follow my advice, and having given her consent, an incision was made by The Professor, from the sternum to the pubes, but after turning over the viscera, nothing to take away could be discovered. Strange to say, the woman recovered almost without a bad symptom."[1] We cannot be too familiar with the history of cases which have led men so farastray, and we think the reader will excuse us for giving the above details. M. Dohlhoff cannot be charged with precipitance;—his patient was under his observation in hospital practice, for more than a year before the section was performed. It is a matter of congratulation and amazement, that all these poor sufferers recovered.

III. *In four of the eighty-nine Cases the Tumour was unconnected with the Ovaries.*—This is a mistake of less enormity, and more excusable than that last referred to, although not less formidable in its character to the patient. It may be questioned if the first case, (Lizars' 4th,) belongs properly to the category; but from the account given, we are of opinion, that the tumour was connected with the mesentery and not with the ovaries. The numerous convoluted vessels which gave the mass the appearance of a placenta, were found to be those of the omentum majus, and by puncturing the mass twice with a trocar, and by exploring its centre by a deep incision, it was found to be solid,—only a little blood escaped.

In the second case of this kind, Mr King operated by the minor operation, and on discovering the tumour to be connected with the mesentery, prudently desisted from further interference, and his patient had a fortunate recovery. In the third case, Mr Clay, the Champion of this operation, who vaunts so highly of his powers of diagnosis in ovarian disease, found, on opening the abdomen, that the tumour was uterine, and proceeded to remove the body of the organ, leaving the cervix and the ovaries:—his patient died. Another case was referred to in a note to our previous article: Mr Heath details it fairly and honestly, and we think we are correct in asserting, that but for the exaggerated statements advanced by previous writers, regarding the impunity with which the viscera may be extracted, he would not have proceeded to remove the diseased uterus :—the patient died.

These cases show, we think, sufficiently clearly, the great difficulty of forming a correct diagnosis in such diseases. In nine out of eighty-nine cases, has the opinion formed by various parties, after much patient and deliberate consideration, been proved by the result to be erroneous. The simple numerical statement is more impressive, than any process of reasoning which can be resorted to. In what light would we view the operation of lithotomy, if "dry cutting" happened in ten of every hundred cases operated on? Fortunately, seven of these patients have recovered from the effects of the operation, but we cannot comprehend the feelings, or appreciate the reasoning of those who maintain, that even by these unfortunate cases some knowledge has been gained,—that some light has been thrown on abdominal surgery. The knowledge, such as it is, has been gained at a sad sacrifice of human life and suffering; and after all, will the fortunate escapes in so limited a number of instances, induce those, who have witnessed fatal consequences follow even trifling injuries of the peritoneum, to believe that the danger of inflammation, after injuring that important sac, is antiquated delusion handed down by our forefathers? Let a person of some experience speak: "I need not tell you," says Mr Liston, "that wounds of the abdomen are dangerous; patients perish from trifling openings where the viscera are not at all involved, and yet you are aware, of late years the belly has been opened intentionally, with the view of ascertaining the existence of tumours, and of taking them out. These incisions have been made sometimes of limited extent, and sometimes from the ensiform cartilage down to the pubes. Some people do not hesitate to make a hole in the abdomen, put in

[1] Lancet, February 8, 1845.

their fingers, and feel what is there,—strangely exemplifying what Hudibras says—

> 'As if a man should be dissected,
> To see what part is disaffected.'

"These operations are, in my opinion, exceedingly unjustifiable; I have always set my face against them, and I think always shall. In the first place, the diseases you meet with in the abdomen are not always—I may say, are very seldom—of a dangerous character. Women labour under encysted tumours connected with the uterus and ovaria, and under solid tumours too, and yet enjoy perfect health; the disease does not kill them. Sometimes—though very rarely indeed—you meet with malignant diseases, but it is impossible to ascertain their nature through the parietes of the abdomen. If there be malignant disease, you cannot expect to cure the patient by any known means, and you are not warranted in having recourse to the removal of the disease; for even the operation itself is attended with most imminent risk. You are told how many patients recover, where the disease is not of a malignant character; but many people write disingenuously; they do not tell the whole truth. When they have an unsuccessful case they do not bring if forward, but every successful case they advertise most unblushingly. I have taken some trouble in looking after the cases, having by chance seen some of the first that were operated upon, and tried hard besides to dissuade the patients from undergoing it. I have examined previously some of the cases in which Mr Lizars performed this operation in private practice;—for I took good care to prevent him from cutting open women's bellies in the hospital after he became attached to it."—*Lancet*, Feb. 8, 1845.

We fortify ourselves behind the entrenchments of Mr Liston,—not that we entertain any doubt on the subject,—nor that any practical man will have any hesitation in acquiescing in our views,—but because some of the most resolute ovariotomists, in their determination to surmount all difficulties and obstacles, have charged all the press who have conscientiously expressed opinions adverse to their pet operation, with the lack of experience! A perusal of Dr Clay's attacks in recent numbers of the *Medical Times*, on this great surgeon, and on British reviewers, brings some odd comparisons to our recollection. If Dr Clay is influenced solely by a laudable desire to ascertain the merits and demerits of this operation, we cannot discover reason why he indulges so liberally in bad personalities. Is not such conduct directly calculated to raise a suspicion of his motives? Instead of declaiming upon the "clouded and inexperienced understanding" of his reviewers,—the "folly of a modern lecturer on midwifery," and the "*miserable bad surgery*" of the metropolitans; let us advise him to lay before us FACTS calculated to establish the safety of the operation. Some passages in his recent papers would lead us to imagine that *even he* considers something still to be done in the way of improvement, ere it can be acknowledged by the profession,—notwithstanding his previous assertion, that "it is a perfectly legitimate and more than ordinarily successful capital operation." He says, "when time has advanced, when the diagnosis is more clear, when facts are more numerous, this operation, like every one of any magnitude, will be calculated with more and more success, until the whole profession will acknowledge, that such cases ought not to be allowed to die without some effort to *save, even by the knife*."[1] Now we readily grant, that if the labours of the ovariotomists bring to light any diagnostic signs by which we can positively detect the existence and connections of ovarian tumours, one serious objection to the operation which they advocate, will be removed; but we insist, that the discovery has still to be made,—the recorded cases do not evince one step of advance on our previous knowledge,—the obscurity of which every practical writer has proclaimed to be as profound as ever. We have already complained of the paucity and the partial one-sided nature of the facts before us;—but we do not deny that when they are more numerous,—when we have the facts, the whole facts, and nothing but the facts,—that the profession will be in a better position to form a just

[1] Medical Times, Feb. 15, 1844.

opinion of the safety of the operation; and we have no doubt that Dr Clay, and those who entertain his views will then get full justice, notwithstanding the *venality*, as they term the present *opposition*, of the medical press.

IV. *In fourteen of the eighty-nine Cases, the Operation could not be completed.*—The peritoneum was opened, but in consequence of circumstances which the utmost caution and foresight had failed to detect, the diseased mass could not be extirpated. The practical bearings of these cases must be invaluable, even to those who advocate the operation, and we will be excused for referring to them somewhat more particularly. The obstacle which prevented the operation from being proceeded with seems to have been, in thirteen cases, adhesion of the diseased ovaries to the surrounding textures. In the majority of these cases, there had been no pain or tenderness indicative of peritonitis, and which might have led to a suspicion of the true state of matters; and a careful examination externally failed to detect the existence of any barrier to extirpation. In M'Dowell's third case, the tumour adhered so firmly to the uterus and bladder, that the separation of the connections was not attempted, but the cyst was punctured, and profuse hemorrhage followed. In Lizars' second operation, both ovaries were discovered in a morbid condition, but the largest only could be removed;—the *final* result of the case we have never learned, and, so far as we know, it has not been published. Adhesions arrested further procedure in cases recorded by Granville, Gallenzowsky, West, Walne, and other operators of equal experience and surgical dexterity. The extreme vascularity of the mass presented the chief barrier to removal in Dieffenbach's case; after exposing the tumour, and discovering the numerous blood-vessels, he prudently desisted from further interference. It is but fair to state, that in 4 of these 14 cases, part of the tumour was extirpated; but the operation, for which the abdominal section was had recourse to, not being fully completed, they naturally fall to be considered under this division. We feel satisfied that the means suggested by Professor Simpson, through the medium of this Journal, will generally enable the careful and scientific practitioner to distinguish between uterine and ovarian diseases; and we will grant, for argument's sake, that some means may yet be devised, by which ovarian may be distinguished from other abdominal tumours; but we hold it as proved, even by the cases recorded by ovariotomists, that it is absolutely impossible to ascertain the existence, nature, or extent of adhesions until the peritoneal sac be laid open. It rarely happens that the early history of the cases can be clearly ascertained, as the tumour gains a considerable magnitude without creating any uneasiness to attract the patient's own attention. In many instances, adhesions of an extensive character have been discovered, where the most positive evidence, which can be afforded under such circumstances, existed, that they had been preceded by no tenderness or pain; it would therefore appear that the mere pressure of the tumour may excite a degree of irritation sufficient to produce an exudation of coagulable lymph, although insufficient to occasion painful sensations. The mobility of the tumour does not afford positive information of its connections:—even when the bands stretch from the anterior surface of the mass to the abdominal walls, the elasticity of the textures admits of elongation and motion, and when there exist adhesions to the intestines, mesentery, pelvic walls, or viscera, it is a physical impossibility to discover them, except by the dangerous and painful expedient of an exploratory incision. Impressed with the belief that the diagnosis of adhesions does not admit of being materially improved, we cannot join with Dr Clay, in a confident hope, that "the unsuccessful cases will be diminished as we progress in experience, and thereby establish its position as a saving operation." But to return to the cases.

These cases of non-extirpation might be turned into a tabular form, (something like that which we once exposed,) which would have a very imposing appearance, to one but partially acquainted with the details. They would tend to swell very considerably the list of recoveries, although in reality, every man must feel convinced, that the shock inflicted on the constitution by the fruitless operative procedure, by lowering the vital powers, must have materi-

ally and directly tended to hasten the progress of the disease, and shorten the sufferer's existence.

But some of the fruitless attempts at extirpation did not terminate so fortunately. In seven instances, the abdominal section proved fatal, although the disease was not removed. In three of these, no doubt, part of the mass was taken away, but the fatal consequences seem chiefly to have arisen from the interference with the peritoneum; so that this important, highly organized membrane, does not prove the calm, quiet, phlegmatic sufferer which the Clay School would lead us to believe.

It appears that no tumour existed in five of the cases submitted to operation,—that in four the disease was not connected, as had been supposed, with the ovaries; and that in fourteen instances the operation could not be completed. Of these twenty-three patients, thirteen recovered, and ten died. In order that we may clearly and fully appreciate the merits of the operation, in those cases in which it has been actually carried into execution, let us leave out of consideration the unfortunate occurrences we have been discussing, and that of L'Aumonier, and we will find the rate of mortality to stand thus,—

Recoveries, ... 40
Deaths, ... 25

Now, a mortality of even 50 per cent. should certainly not deter us from the performance of many operations. No one would deny his patient the chance of the knife in strangulated hernia, were the average mortality 90 per cent., because the condition of parts for which it is demanded must, of itself, speedily and certainly terminate life; and the same remark holds good with regard to nearly all those diseases for which the greater operations of surgery are required. It has been remarked by Mr Phillips, in one of the ablest and most impartial papers which the ovariotomy *mania* has called forth,[1] that the *arteria innominata* has been deligated in 12 instances, and invariably without success; and still the most eminent in the profession would not shrink from a repetition of this operation. And why? Because hitherto every attempt to cure the disease by milder means, or to materially retard its progress, has proved abortive. The disease is of a desperate character; and therefore surgeons do not hesitate to resort to desperate means in the hope of effecting a cure. The results have been most unsatisfactory, but it does not appear that much suffering has been unnecessarily experienced, or the duration of life very materially abbreviated by any operative procedure resorted to. But how stands the question with the diseases and operation at present more particularly under our consideration. Our limits do not permit us to indulge in lengthened quotations, but we unhesitatingly assert, that in a large proportion of cases a diseased ovarium constitutes a mere encumbrance,—it may, as in A. Smith's case, hinder an active woman from following her domestic pursuits and from stooping, but it seldom incapacitates from the ordinary duties and enjoyments of life;—or, to use the language of Dr Copland, "The symptoms attendant on these tumours are not severe, and are occasioned chiefly by pressure on adjoining parts. When the tumour is seated low in the abdomen, pressure on the nerves and veins often occasions swelling and numbness of the leg and foot, on the side where it is largest; but it may continue stationary for many years, or even for the great part of a long life." In many of the recent cases, a wretched and transparent attempt has been made to conjure up a state of misery, which we look in vain to find delineated in any ancient or modern treatise of respectability on the subject. Impressed with the belief that disease does not change its character to suit the views or objects of any party, we feel satisfied that the well-informed of our profession will follow the good old, though beaten path of selecting the least of two evils. Before exposing a patient to the hazard of "the full-sized abdominal section, (to use the language of Mr Walne) to which the name of major operation justly applies," we must conscientiously ask ourselves, "Have we ever met a similar case which did not speedily and certainly prove fatal?" Were the relative position of my patient

[1] Med. Chirurg. Trans.

and myself reversed, would I submit to the "full sized abdominal section," extending as it may, at the caprice of the operator, from one to fourteen inches, or from the sternum to the pubes? This we hold to be the proper view of the question. Numerous recorded examples of ovarian disease prove, that even the most formidable cases are not to be considered as utterly hopelesss. Cases of extreme enlargement sometimes become spontaneously stationary, or totally disappear, and give rise to little suffering or uneasiness, in consequence of the parts accommodating themselves to the pressure; and it even sometimes happens that the tumour entirely disappears.

V. *Character of the Tumour extirpated.*—This is a subject in which we feel particularly interested, and on that account we have devoted no small share of attention to the details of the cases described. We confess, with deep regret, that the anatomical descriptions, in the greater proportion of the cases, are not detailed in language sufficiently precise to be accurately understood. From the accounts given, however, we think it proved, that all were not of a simple character, but that several were schirrous, fungoid, or other malignant tumours, likely to reappear in some other locality. Moreover there is too good ground to believe, with Dieffenbach, that the extirpation of one diseased ovary will tend to excite morbid action in its fellow.

VI. *Duration of disease previous to the operation.*—We thus headed a column in our table, but as we proceeded with the details, we found that no satisfactory data on the point could be procured. This paucity of information probably depends, partly on the insidious character of the disease, and partly on the negligence or oversight of the recorders. Accurate histories, in these, as in all other diseases, would be invaluable in a practical point of view.

Our conscientious conviction is, that OVARIOTOMY IS AN UNWARRANTABLE OPERATION, and that no modification of it hitherto introduced to the notice of the public is sanctioned either by our present knowledge of ovarian pathology, or by the records of the cases which have been published. But if called on to give an opinion of the comparative merits of the major and minor operations, as they have been designated, we certainly would give the preference to the latter. We believe that the less injury sustained by the peritoneum, *cæteris paribus*, the more fortunate will be the termination of the case, and we have been frequently at a loss in the examination of these cases to discern on what principle such heroic incisions were sanctioned. The method followed by Mr Page in the last case referred to in the table seems to us much more prudent, and more in conformity with established principles of operative surgery, than that recommended by many of the doughty advocates of the major operation. He carried his incision through the skin to the extent of two inches, and divided the peritoneum to the same extent. A finger being introduced into this opening, the tumour was found to be unattached and moveable, and the incision was prolonged about two inches further, and the hand passed freely round the tumour in all directions. The margins of the wound were kept closely approximated to the surface of the tumour on either side, in order to prevent the ingress of air, or the egress of the intestines. The cyst was next seized about its centre with a bulsellum, and transfixed by the trocar, ordinarily used to tap the bladder above the pubes. On the withdrawal of the stilet, the dark grumous fluid which escaped was conducted by means of a tube made of common oil-skin, rolled upon itself, into a vessel over the margin of the bed. Gentle traction being used by the bulsellum, and pressure being made upon the abdomen, about one-third of the cyst was extracted. All traction was now discontinued, as the cyst was observed to be considerably extended by each expiration, which alone sufficed to expel the remainder of the sac. The canula was withdrawn, and the aperture secured by a ligature. The tumour was seized, and gently elevated by an assistant, so as to render the neck somewhat tense, around which a ligature of whip-cord was placed as near to its origin as practicable. This procedure exhibits much more caution and regard for the

sufferings of the patient, than the unseemly and hazardous incisions from the ensiform cartilage to the pubes, exposing the whole abdominal viscera. Considering the present uncertainty of diagnosis of ovarian disease, we consider the proper method of operating is, to commence with a small or exploratory incision, which can, at any step of the operation, be enlarged according to the circumstances and exigencies of the case. In the present state of our knowledge, no surgeon can tell before opening the belly of his patient, whether the tumour has a pedicle or not; whether it has connected strong adhesions with the pelvic walls and viscera or not; or whether he may, or may not, be able to complete the extirpation; and surely he can desist with greater propriety, and with less risk to his patient, with an opening of an inch, than with one of eight or ten times that dimensions.

The difficulties connected with any method of operating frequently constitute an important element in determining its value; but, so far as Ovariotomy is concerned, there is absolutely no scientific knowledge necessary for the performance of either of the methods recommended, as many of those who have performed the operation freely admit. We are only amazed to find any respectable surgeon insist that the opening of the abdomen,—the application of a ligature around the pedicle of the tumour, or, it may be, the separation of a few adhesions, requires either the head or the hand of even a third-rate surgeon. If we did not consider this operation of easy performance, and affording an opportunity of gaining an easy notoriety for operative dexterity, and therefore likely to be abused, we would certainly not have devoted so much space to its consideration. An operation requiring much dexterity and surgical tact is seldom unnecessarily performed. The after treatment pursued in some of the cases has been loudly applauded, but we have failed in discovering, by a very careful examination of all the cases, any step taken, or any plan followed, which would not have suggested themselves to any individual conversant with the first principles of surgery.

It is worthy of remark, that none of the recorded cases were performed in consequence of the complication of an ovarian tumour with pregnancy. A very interesting case is detailed in the periscope of the present number, in which parturition was retarded by the mass dipping down into the recto-vaginal pouch and obstructing the passage of the fœtal head, and we have learned of a case, in many respects similar, where the size of the tumour in the same situation rendered the Cæsarian section indispensable.

In conclusion, we may remark, that age does not appear to influence materially the result of the operation; in the majority of the cases, the patients were between 40 and 50 years.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

On the Medicinal Qualities of Bebeerine. By Dr Douglas Maclagan, Lecturer on Materia Medica, Edinburgh.

The virtues of Bebeerine, as an anti-periodic remedy, were brought under the notice of the profession, in a paper published by Dr D. Maclagan in The Monthly Journal, in August 1843.

The plant yielding this vegetable alkali was at that time unknown, but has since been described by M. de Schomburgh, as a species of NECTANDRA, under the name of *N. Rodiei*.

In the present paper, Dr D. Maclagan mentions that the sulphate of the alkali has now been prepared by Mr J. F. Macfarlan of Edinburgh, of fine quality, and can be had at a price only one half of that of sulphate of quinine.

At Dr D. Maclagan's request, trials have been made with it, in addition to those published in his former paper, by Dr Watt of Demerara; Dr Bennett, Edinburgh; Dr Dempster, 21st Fusileers, in India; Dr Howard, 13th Native Infantry, Madras; Drs Anderson and Falconer, Madras Artillery; and by Dr Godfrey, Bellary. With the exception of the last gentleman, all report more or less favourably of the anti-periodic powers of bebeerine in remittent and intermittent fevers.

The following are some of the opinions expressed by the above-mentioned medical men.

Dr Watt of Demerara, after detailing six additional cases of remittent and intermittent fever treated by it, says,—

"Should the bebeerine be found equally efficacious with the quinine, in checking fever, and as an antidote to malarious diseases in general, (which, I think, we have already good reason to anticipate,) how far superior will it prove, in that it leaves the head and nervous system comparatively free and unaffected, while in no case within my knowledge, has it ever caused irritation of stomach, or cold sweat. In Mr C.'s case, No. 5, where ninety-six grains of the bebeerine were taken in three days and a half, I should not have ventured to give the same quantity of quinine in the same period, for fear of cold sweats, sinking pulse, and irritability of stomach, more especially, as when the system is charged with bile, those untoward symptoms are more apt to follow the free exhibition of the quinine.

"I have a suspicion that the bebeerine is somewhat tardier, however, in developing its febrifuge effects. . . . ."

The following are the opinions of the East Indian physicians:—

Mr Dorward says;—"Notwithstanding my limited experience, I cannot but believe that bebeerine is a medicine of the highest efficacy in checking fever, and that it will prove a valuable substitute for quinine.—I am, &c. &c.

(Signed) J. DORWARD, Assist. Surgeon 13 Reg. N. I.
Chicacole, 13th May 1844.

Drs Anderson and Falconer speak thus:—

"*Remarks.*—These five cases being ascertained by observation in hospital to be regular uncomplicated intermittent fevers, they were considered favourable for testing the anti-periodic virtue of the sulphate of bebeerine. . . .

"From these cases," (which we have not room to quote,) "I infer that the sulphate of bebeerine possesses considerable antiperiodic power, and although inferior to, it is likely to be a valuable substitute for the sulphate of quinine. The bebeerine neither excited the circulation nor affected the head.

(Signed) "J. ANDERSON, M.D. Assist. Surgeon.
(Signed) "D. FALCONER, Actg. Supg. Surgeon.
N. S. Force."

"Kamptee, 24th May, 1844.

The following is the unfavourable statement made by Dr Godfrey.

"To the Superintending Surgeon Ceded Districts.

"Sir,—In reference to memorandum No. 389, dated Medical Board Office, 2d May 1844, I have the honour to inform you, that, from not having had any well marked cases of periodic fevers in hospital during the time alluded to, I was unable to make fair trial of the effects of the sulphate of bebeerine.

"On two or three out-patients, however, its febrifuge power did not appear satisfactory, whilst its unpleasant taste and astringency were complained of.—I have, &c. &c.

(Signed) "J. GODFREY, Garrison Surgeon,
Bellary, 9th May 1844."

The following is Dr D. Maclagan's summary of the cases of fever treated by the sulphate of bebeerine:

"The cases of fevers treated with bebeerine with which I am acquainted, amount to about 40, and they are all subjoined by me in a tabular statement. It will be seen on inspecting the table, that the bebeerine has been tried in various climates, including Edinburgh, Canada, the West and East Indies, in all the various forms of remittent and intermittent, and at all ages from twelve to seventy-four. In all of them it appears to have manifested more or less of antiperiodic action. In 6 cases, or nearly 1 in 7, it does not seem to have acted satisfactorily. Of 26 cases, the details of which are given, 5 only suffered from any unpleasant effect, and this seems not to have gone beyond a little *tinnitus aurium*. It appears, therefore, to be entitled to a *fair trial*, especially in the public services, where alone such cases can be found and properly observed, and where its cheapness, contrasted with the price of quinine, might be matter of importance."

Dr D. Maclagan likewise narrates some cases of periodic neuralgia, which were treated successfully with bebeerine. In several of these quinine had to be abandoned from its unpleasant effects on the head and nervous system, an objection which is not found to apply in a similar degree to bebeerine.

The dose of sulphate of bebeerine is the same as that of sulphate of quinine. —Abridged from *Edinburgh Medical and Surgical Journal*, April 1845.

MIDWIFERY.

Observations on a Case of Fatal Ovarian Disease. By Robert Hardy, Esq., Hull.

In the month of August, 1843, I was called to officiate at the labour of Mrs W——, the lady of the Rev. N. W——, vicar of S——, near this place. It was her first accouchement, the patient's age being twenty-seven or eight. She had been indisposed about twelve hours when her first examination was made. The outer parts and vagina were well lubricated, and disposed to relax; os uteri fully within the pelvic cavity, thin, and easily dilatable, and open to the size of a half-crown piece. Membranes thin, and protruding well during each pain. At the left posterior aspect of the pelvis, a considerable fulness was perceived, which was at the time supposed to consist of feces in the rectum; presentation of the head in the right position, but resting on the os frontis; pelvic capacity ample. In two hours afterwards, the head was found in statu quo, though the pains in the interim had been very efficient; the os uteri, also, was but little more dilated than when last examined.

It being evident that some *obstacle* existed to the head's descent, a more careful examination of the swelling before alluded to was instituted, and it was found to consist of a firm tumour of definite form, (supposed to be ovarian,) and dipping into the pelvic cavity, as far as the recto-vaginal pouch would admit of; it occupied nearly half the circumference of the brim of the pelvis, and varied considerably in its degrees of density in different parts.

As all the maternal organs were so favourably disposed to delivery, I deemed it might assist us were we to rupture the membranes, which was accordingly done about half an hour after the examination of the tumour; and at the same period, a broad abdominal bandage was firmly applied. After the lapse of an hour, matters were much as before. I had the patient now removed from bed, and placed between two chairs, as if seated on the night commode; in this position she remained about an hour and a half, during the whole of which, the pains were not only very frequent, but also powerfully expellent. Still, at the end of this period, the head was advanced but very little; the scalp considerably corrugated; and, to my great mortification, the

tumour not in the least displaced from its advanced position; but, on the contrary, by the pressure from behind, had become more decidedly obstructive of the passage of the head into the pelvis.

During the last three hours, I had made several ineffectual attempts to push back the tumour; and I now became apprehensive that we should ultimately have to reduce the child's head by perforation, as the space left for its descent was at least one half less than its natural dimensions. I stated my fears to the lady's husband, and urged on him the propriety of an early consultation on the case; this, however, he for the present declined, wishing me to act on my own judgment.

Before deciding on ulterior measures, I determined on making one further strenuous attempt to reduce the tumour; for this purpose, the patient was again removed to bed, her nates were considerably elevated, her shoulders depressed, and her face and abdomen inclined downwards towards the bed. The right hand being well oiled, I passed it fully within the vagina, and waiting the subsidence of the next pain, I made firm pressure with the knuckles on the fœtal head, pushing it pretty completely beyond the pelvic inlet; then, with the expanded fingers of the same hand, I exerted on the tumour a firm and steady pressure upwards, in the axis of the brim, which I was happy to find had some effect in altering its position. During the two succeeding pains, I was enabled to maintain the advantages already gained; advancing the tumour slowly upwards in the intervals; after the third pain had gone off, to my great satisfaction I succeeded in elevating it quite to the pelvic brim, when it immediately slipped away into the left hypochondrium. I still kept the hand within the vagina; the next pain advanced the head slightly, and after two or three others, it occupied the whole inlet. The hand was now withdrawn, the patient put in the usual position for delivery, and in less than two hours, she was safely brought to bed of a very large and healthy female infant. The placenta was cast off properly, and the recovery rapid and complete.

The first time this tumour appeared to inconvenience the patient again, was early in May of the present year, when I was called, in great haste, to visit her, as she was "labouring under obstruction of urine, and in great agony." On inquiry, I found Mrs W—— expected she was about *four months advanced in gestation.* The stoppage of urine was of fourteen or sixteen hours' duration; the body was tumid and tender, and countenance expressive of great suffering; the attack of pain had been sudden, and the patient had passed her urine freely the preceding evening; she was also quite certain that she had used *no* violent exertion the previous day.

I stated to the patient my conviction that the cause of the present accident was the enlarged ovarian tumour, which had so seriously impeded the birth of the infant; my impression being, that it had produced the present symptoms by obstructing, to some extent, the brim of the pelvis, preventing the uterus from rising out of it into the abdominal cavity, depressing its fundus, and in this way inclining it backward, and ultimately, as the bladder filled, tilting this part of the uterus downward into the recto-vaginal pouch.

An examination per vaginam demonstrated a retroverted condition of the uterus. Three pints and a half of urine were drawn off, the patient placed on her knees, with the head downward, and, after some difficulty, the uterus was replaced in its proper position. The nates were ordered to be kept considerably elevated, and the patient to preserve the horizontal posture some days; the urine to be passed as she laid, frequently. Next day I found all well; the urine had passed freely, and the bowels had been opened by castor oil. The recumbent position was persevered in, for the most part, during a fortnight; after which, the uterus was found to have risen fully into the abdomen, and no further present inconvenience was experienced from the presence of the tumour.

The second delivery occurred about three A. M., on Saturday, the 19th of October; and so rapid was the process, that before my arrival, the infant had been expelled the uterus from fifteen to twenty minutes. The patient had had slight pains since ten o'clock of the evening preceding, but did not become seriously worse till about one A. M.; it is therefore clearly demonstrated, that

the ovarian tumour had been kept altogether out of the pelvic brim by the shoulder of the uterus, or the delivery could not have been thus rapid and facile. Much hæmorrhage had occurred (I suppose) after the birth of the infant, and yet continued; but this I was enabled quickly to restrain by pressure on the uterus, which contracted well. The placenta was ere long expelled, and we had no return of the flooding; nor did the patient seem to feel inconvenience afterwards, from the serious loss which she had sustained.

About forty hours after delivery, Mrs W. began to complain of pain in the left hypochondrium, which steadily increased, till in a few hours it became most excruciating, the patient tossing violently about in bed, from her extreme agony. About three A.M. on the Monday, I was sent for, and found her in great pain, which was described as of "a tearing colic kind," and identified by the patient as similar, in seat and character, to the pains experienced on a former occasion, from inflammatory obstruction in the bowels. For her relief, there had already been administered one ounce of castor oil, also two doses of rhubarb and magnesia, all of which the stomach had retained, but they had not as yet operated. Hot flannels had also been applied to the abdomen. The patient had had no shiverings, the lochia were plentiful, but there had been no attempt hitherto at lactation. The tongue was whitish and moist, skin cool, and pulse under 100 per minute. She expressed her conviction that complete relief would follow evacuation of the bowels, but feared it might be with difficulty accomplished, as was the case on the former occasion referred to. I waited three hours with the patient, during which period were administered to her two large stimulating enemata, and half an ounce of castor oil was repeated by the mouth, but these did not operate satisfactorily, and on leaving, I gave orders that the enemata should be repeated every four hours, till free purging took place.

On Wednesday, Mrs W. seemed rather better; but as considerable tenderness yet remained in the pubic and hypogastric regions, twenty more leeches were applied, which bled freely. Great difficulty was still experienced in procuring stools, and the enemata were ordered to be repeated every few hours; continue the mixture and pills, each containing one grain of calomel, half a grain of extract of hyosciamus, and one-sixth of a grain of tartarised antimony, one with each dose. The pulse was about 116 per minute, and the bowels greatly distended by wind. To relieve the latter state, an œsophageal tube was passed into the rectum, and left there, which afforded great relief, by favouring the free discharge of gas.

On Thursday, at noon, I found the patient much better; the bowels had acted well; all abdominal tenderness was gone; pulse reduced to 100 or 104 per minute; belly but very slightly distended; and she turned herself on either side in bed without any inconvenience; had enjoyed a little sleep, and expressed herself confidently that "the storm was now hushed, and that all would be speedily put right."

Early in the succeeding evening our bright hopes were dashed to the earth; violent vomitings of a dark bilious matter occurred, the patient's strength being thereby greatly reduced; the body became highly tympanitic, and the pulse rose to the alarming number of 130 beats per minute. About midnight, being sent for, I availed myself of the valuable services of Dr Alderson, who accompanied me, when we found our patient in the alarming condition above described, with some aphthæ on the base of the tongue and cheeks. The vomitings had continued unabated up to the period of our visit, and the patient was extremely restless and anxious. Ordered immediate evacuation of the urine, large stimulating enemata of solution of yellow soap with oil; also a large and powerful sinapism to the pit of the stomach, and stupes of spirits of turpentine to the lower bowels, the last named to be repeated every hour till relief obtained. Before leaving the patient, an anodyne draught was administered, which produced some refreshing sleep. A stimulant mixture, composed of mixture of camphor, with carbonate of ammonia, and spirit of ammonia fœtid., was ordered to be given every three or four hours.

On the Friday afternoon we again saw our patient, who was but slightly

relieved. Ordered her an oleaginous aperient mixture; two tablespoonfuls every fourth hour. The anodyne draught to be repeated at bed-time, if the castor-oil mixture had then operated. Diet to consist of arrow-root with brandy, to be given every second hour; a blister to the scrobic. cordis; urine again drawn off.

On Saturday morning we thought our patient somewhat relieved. Repeat the stimulating mixture, and omit the aperient.

The disease progressed, occasionally showing slight symptoms of abatement, and then the opposite state of increased general debility and irritability of stomach, distended abdomen, obstinate constipation, &c., till on Saturday evening, the 2d of November, she sunk under her malady, being fourteen and a half days after her delivery, and having, within the last forty-eight hours of her life, frequently ejected feculent matters from the stomach. The mammary secretion was never established, but the uterine discharges maintained their normal character to the close of life.

Autopsy.—"The abdomen having been opened, the peritoneal coat of the abdominal parietes appeared, when turned back, of a dark olive colour. In the left hypochondriac region a large fleshy tumour appeared, as large as a pint basin, pear-shaped, having a long neck, not more than an inch in diameter, connecting it with the left ovary.

"Scattered over the bowels were portions of cheesy matter, of various sizes, from a hempseed to a small nut; and on examining the tumour it was found burst or ruptured, and contained this cheesy matter, together with bloody pus, and dark grumous blood. There was also some hair mixed in with these contents. The walls of the tumour were thick and fleshy, and gave much the appearance of a very large flabby heart. The small intestines in several places were glued to this tumour and its neck, and on being drawn from them had portions of lymph adhering to them; the peritoneal coat of the bowels (small) in the neighbourhood of the tumour being of a chocolate colour, from congestion and strangulation. *One portion of small intestine was glued and twisted round the neck of the tumour, and quite strangulated,* having fringes or edges of lymph on its sides when drawn from its attachments.

"The long neck of the tumour was twisted round the left Fallopian tube, and was clearly traced to the left ovary; the uterus rather larger than in health, partly not contracted, and flat, as if pressed upon; some dark, venous-looking fluid in the cavity of the abdomen; the large intestines distended with air."

Previous to the autopsy I had addressed a note to Dr Alderson, containing the following remark:—"I cannot divest my own mind of the idea that some physical obstruction will be found (from the ovarian tumour) to a permeable state of the bowels, and that this has most materially influenced the final result."—*Lancet*, April 5, 1845.

PART FOURTH.—MEDICAL NEWS.

MEDICAL REFORM.—The bill has been read a second time. In its progress through the Committee it will be considerably modified.

BOOKS RECEIVED.—Many valuable ORIGINAL ARTICLES, and a great mass of valuable PERISCOPE, have been kept out of this number, by the length of the Reviews on Mesmerism and Ovariotomy.

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NO. LIV.—JUNE 1845.

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No. LIV.] JUNE. [No. VI. OF 1845.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Case of Sudden Death from Rupture of the Superficial Fibres of the Heart. By* DAVID MACLAGAN, M.D., F.R.S.E., (With a Plate.)

(Read before the Medico-Chirurgical Society of Edinburgh, April 2, 1845.)

A LADY, 75 years of age, while seated with her family at about half-past two P.M., on Monday, February 10th, was observed to become suddenly pale, and, (after feebly expressing that she was sick,) before assistance could be given, fell from her chair on the floor in a fit or faint, described to have been of a slightly convulsive character. She was with some difficulty conveyed to bed, in her clothes, by the females of the family. I saw her there in about a quarter of an hour from the period of seizure; and found her with pale sharpened features, and cold pulseless extremities. She was now, however, quite collected, and spoke with a low, but quite articulate, and even tolerably hale voice. She stated in answer to my inquiries, that she had no pain, but a sense of weight, tightness, and uneasiness over the chest. External appliances of heat, and internal stimuli, were immediately and assiduously administered. She swallowed without difficulty, though latterly with disinclination, and there was no restoration of the pulse, or of the natural temperature of the extremities. She continued apparently without pain, but in a state of restlessness and occasional jactitation, and expired in about an hour from the time of seizure. The breathing throughout, with the exception of fitful intervals of hurried respiration, though feeble, was, until towards the close of life, nearly natural. About half an hour previous to her death, her clothes had been so far loosened and removed as to enable me to ascertain a considerable extent of dulness over the precordial region,

but not its exact limits, and though on applying my ear I thought I heard and felt a slight impulse of the heart, it was so obscure as not to be depended on.

Though watching with much interest the symptoms of the case, and strongly impressed with its probable affinity to that of our lamented friend, Dr Abercrombie, I need hardly apologize for the scantiness and imperfection of my observations. The Society can appreciate the circumstances in which a medical practitioner is placed, in the midst of an anxious family, constant in inquiry, watching his every movement and expression, and hoping even against hope, that something may be done to save the object of their affections.

This lady had throughout life enjoyed a remarkable share of good health, was active to the last in the discharge of domestic duties, and in taking regular exercise in the open air. With the exception of occasional derangement of the digestive functions, which demanded only the mildest remedies, she had rarely required medical aid. She had never complained of difficulty of breathing or inability for exertion, except that limitation of power and of facility in ascending heights or steeps common even to healthy persons of a less advanced age, particularly where, as in her case, increased corpulence accompanies it.

The body was examined forty-six hours after death, by my son, Dr Douglas Maclagan, in my presence, and that of one of his pupils. The general appearance was that of a healthy person suddenly deprived of life, and of an apparently less advanced age than that which the individual had actually attained.

Previously to opening the cavities of the chest and abdomen, it was ascertained, that precordial dulness extended from the centre of the sternum to the left mamma, as far upwards as the fourth rib, and as low as the xyphoid cartilage.

On opening the cavities of the chest and abdomen, the tegumentary coverings were found loaded with fat. The contained viscera exhibited a very healthy appearance. On exposing the pericardium,—the state of which, and of the contained heart, was the first and main object of inquiry,—the pericardium was immediately seen and felt to be much distended, and that apparently with fluid; on opening it, about eight ounces of fluid blood, and four of coagulated, were removed.

On further examination, the source of the blood was found to be two small lacerations of the substance of the heart itself. One of these was about four lines in length, in a direction nearly corresponding with the greatest length of the organ. It was situated on the anterior aspect of the left ventricle, close to the septum cordis, and about an inch and a half above the apex of the heart. The smaller laceration was situated a little higher up on the heart,—was very shallow, and seemed little more than a rent or fissure of the investing serous membrane. Close to the septum there were also one or

two ecchymotic spots on the surface of the heart, apparently as if blood were effused under the serous covering, without any laceration of the textures. On examining more minutely the larger rent, it was found by Mr Henry Goodsir, Conservator of the Museum of the College of Surgeons of Edinburgh, that a bristle inserted into it, passed into one of the coronary veins, and there seems no reason to doubt that the rupture of this vessel, and probably of some of the smaller arteries, was the cause of the hemorrhage. The bristle was not found ever to pass into the interior of the ventricle, but no farther attempt was then made to ascertain this with the probe, from fear of making an artificial opening. When, however, the heart had been hardened by being kept for some time in spirits, its cavity was opened and carefully inspected by Mr John Goodsir, Demonstrator of Anatomy in the University. Some coagulated blood and fibrinous matter were found adhering to the interior of the ventricle, but on removing these carefully by washing and other gentle means, the endocardiac membrane was exposed, and not the least appearance of laceration could be detected. It was clear, therefore, that this was not a case of rupture of the heart, in the ordinary acceptation of the term, but merely a laceration of some of its superficial fibres. Though the symptoms in this case were such as usually accompany hemorrhage, it is obvious, from the quantity found, that death was not owing to the mere loss of blood, but rather to the mechanical obstruction which the effused blood opposed to the heart's action. The chief differences between this case and that of the late Dr Abercrombie seem to have been the less rapid escape of blood into the pericardium, and the rupture being on the anterior surface of the ventricle.

The heart in this case was above the normal size, but was proportionally large in all its parts, and though more than naturally loaded with fat, there was no appearance of hypertrophy or other organic disease; unless there may have been some degree of softening of the heart's substance, from chronic inflammation, which not unfrequently occurs in old age, and with which the adhesion of the fibrinous mass to the interior of the ventricle may have had some connexion.

Cases of fatal lesion confined to the external parietes of the heart, and where effusion of blood took place into the pericardium,—such as that now described, and as occurred in the case of the late Dr Abercrombie, and in that examined by Mr Melvin, and reported at a late meeting of this Society, by Mr John Goodsir, though alluded to in a general manner, seem to have been rarely, if at all observed or recorded by pathologists. The most analogous cases are those referred to at the same meeting, by Dr Cormack, as described by Cruveilhier, under the head of apoplexy of the heart.[1]

Cruveilhier calls this a spontaneous hemorrhage, which has its

[1] Vide Reports of Med.-Chir. Society of Edinburgh, p. 159 of Monthly Journal for February 1845.

seat in the substance of the parietes of the heart, independent of all rupture of the internal fibres, and of all communication with the cavity of the ventricles; and which he considers to be the result of what he calls "*phlébite hémorrhagique.*" It would appear, however, that under this head he chiefly refers to effusion of blood into the substance of the heart itself, and not into the pericardium, or to a very limited extent.

Dr Baillie, in his *Morbid Anatomy*, alludes to cases having occurred, although rarely, in which a large quantity of blood has been accumulated in the cavity of the pericardium, but where no rupture could be discovered, after the most diligent search, either in the heart itself, or in any of its vessels. He refers to two cases,[1] but none of those were cases of sudden death, but had been attended with long-continued symptoms of disease of the heart, and of other affections, and in one the extravasation of blood into the pericardium seems, from the symptoms described, to have been slow and gradual. Upon the supposition of there being no rupture, these were probably cases of capillary hemorrhage, or hemorrhage by exhalation, from the free or serous surface of the pericardium, an opinion which, as Dr Craigie remarks, the analogy of other serous membranes shows to be well founded.

Cases of sudden death from laceration of the entire substance of the heart, are frequently described by writers on morbid anatomy, particularly by Morgagni, who himself, it is said, fell a victim to this disease. It may save some time and trouble to those making inquiries on the subject to mention, that there is an excellent table of these cases given by Dr Townsend of Dublin, in the article *Rupture of the Heart*, in the Appendix to the 4th volume of the *Cyclopædia of Practical Medicine.* From this table, comprising twenty-five cases, it would appear, says Dr Townsend, "that the occurrence of this formidable lesion, is almost exclusively confined to extreme old age; that the proportion of males to females is sixteen to nine, or nearly as two to one. As regards the situation of the rupture, of twenty-five cases, the lesion occurred nineteen times in the anterior surface of the left ventricle near the apex."[2]

In regard to the nature of the structural derangement or disease, which has been precursory of this lesion, various opinions have been expressed by pathological writers. Morgagni ascribed it to general and topical obesity and ulceration, or erosion. M. Blaud[3] regards the softening of the heart's substance resulting from its

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[1] Medical Observations and Inquiries, vol. iv. p. 330. Memoirs of the Medical Society of London, vol. i. p. 238. Dr Craigie in his valuable work on the Practice of Physic, adds a third, from the "Medical Observation and Inquiries," vol. vi. p. 1, and a fourth from Mérat "Mémoires de la Société Médicale d'Emulation, tom. vii. p. 63."

[2] There is a valuable article on the "abnormal conditions of the heart," in the 2d volume of the Cyclopædia of Anatomy and Physiology, in which numerous references are given to writers on this subject. An abstract of two recent cases of rupture of the heart, from the Provincial Medical Journal of Nov. 18, 1843, is given in the Edinburgh Medical and Surgical Journal of Jan. 1845.

[3] Bibliothèque Médicale, an. 1820.

prolonged action, and which is a frequent, if not necessary, consequence of old age, to be the essential cause of the ruptures which take place in extreme old age, and proposes to designate it by the term *déchirement sénile*.[1] Rostan considers partial or general hypertrophy of the heart, to be the precursory state, and Bertin and Laennec ascribe the lesion chiefly to perforating ulcers; while Cruveilhier, from eight cases of rupture of the heart which he had occasion to observe, and which he studied with the greatest attention, says, that the real cause is fragility of the tissue of the heart, either limited or general. The probability is, that these degenerations, either singly or combined, have operated in different cases both of total and partial rupture; while in some of the cases recorded, no immediate cause of rupture could be detected. Whatever the nature of the degeneration may be, if it disturb the uniformity of the heart's action, or its equilibrium, as Cruveilhier expresses it, we can easily understand that total or partial rupture may take place in its weaker parts, from even a slightly abnormal action of the organ itself, or pressure upon the circulation, and still more readily from violent contraction excited by over physical exertion, or strong mental emotion.

This may perhaps, to some extent, explain the more frequent occurrence of total and partial lesion in the left ventricle near the apex of the heart, for "although," as Dr Townsend says, "the parietes of the right ventricle, and of the auricles, are considerably thinner than those of the left ventricle, and, consequently, are the parts which would *à priori* be supposed most liable to rupture, yet, as they are nearly of the same uniform thickness throughout, the force of their contractions, as also their power of resistance, is equally divided, and operates equally on every point of their surface." Whereas, besides that the contractile force of the left ventricle is probably greater than that of the right, and, at all events, the force to be overcome in propelling the blood is considerably greater; the walls of the left ventricle are naturally thinner towards the apex than towards the basis, and this inequality is occasionally rendered still greater by disease, especially by that form of hypertrophy, by no means uncommon in advanced life, in which the walls of the left ventricle are more or less thickened towards the basis, while they retain their ordinary thinness near the apex, or are even rendered thinner than natural. According to Rostan, the disproportion is, in some cases, so great, that the muscular walls of the left ventricle measure fifteen or even eighteen lines in thickness towards the basis, while near the apex they are scarcely two lines thick. Whenever, therefore, the disproportion which naturally exists between the thickness of the walls of the left ventricle near the apex, and towards the basis, is rendered still greater, as in some forms of hypertrophy, or when, their relative proportions remaining unchanged, the firmness of texture and

[1] Townsend.—Cyclopædia of Practical Medicine, vol. iv. p. 633.

force of contraction are generally diminished throughout their muscular structure, as in the case of general softening, described by M. Blaud—the apex of the left ventricle becomes the point which sustains the greatest shock in proportion to its powers of resistance, and yields to the distending power. Accordingly it is found that aneurismal pouches, as well as ruptures, occur most frequently at this very point, namely, towards the apex of the left ventricle.

The cause of the seat of rupture being at a little distance from the apex, and on the anterior surface of the ventricle, may be more difficult to explain, as that part does not appear thinner than the rest, possibly it may be connected with the peculiar spiral direction which the great mass of the fibres of the heart take near the apex, a weaker portion being left in the situation specified.

These remarks afford some explanation of the cause of rupture when complete. In order to appreciate how far they are applicable to cases of partial rupture like the present, it would be necessary to determine whether the immediate cause of rupture is distension from within, or some lesion of the coronary blood-vessels. As there was no appearance of disease in them, it is probable, that unequal action or incomplete contraction of the fibres of different parts of the heart, may be the cause of rupture of the more contracted fibres. The explanation now given, though not applicable to all cases, seems to me to be generally well-founded, and though, from the nature of the cases referred to, we can hardly expect that much information can be derived, in reference either to their diagnosis or treatment, the subject, in a physiological and pathological point of view, is not undeserving of farther attention.

It was justly remarked by my friend Professor Allen Thomson, that the case under consideration suggests two reflections, bearing upon the explanation of the phenomena and causes of sudden death in general, which appear deserving of notice in this place. The one relates to the cause of the interruption of consciousness and nervous power; the other to the cessation of the heart's action, which precedes the invasion of complete death.

In the first place, it is interesting to observe that in the case before us, consciousness and voluntary power remained, when the circulation of blood through the brain was almost if not wholly interrupted; for it was observed, that although the usual loss of consciousness which attends syncope occurred at the time when the rupture of the heart appears to have taken place, this state was only temporary, and the power of motion as well as the mental faculties returned, and remained active for a considerable time, during the whole of which there were no signs of the heart recovering from the state into which it had been suddenly thrown: when, in fact, no pulse was perceptible at the wrist, nor in any of the arteries, and when the heart's action had either ceased, or was so weak as not to be distinctly felt or heard.

This observation, then, together with considerations derived from other sources which become every day stronger, seems to give

support to the view, that loss of consciousness, when not of the nature of coma from increased pressure on the brain, is more immediately due to the sudden diminution in the force and rapidity of the flow of blood through the brain, and more especially to the sudden removal of the usual pressure to which that organ is subjected, rather than to the mere cessation of the renewal of blood within the capillary vessels of the brain, or the consequent interruption of the supposed nutritive changes in its substance.

In the second place, the case before us seems to illustrate, in a striking manner, the extent to which a merely mechanical impediment to the heart's motion may so interfere with its action as to bring it speedily to a stop. For it may be supposed, that in this case, after the patient's recovery from the first syncope depending upon the rupture, the oozing of blood from the torn coronary vessels, gradually filling more and more the cavity of the pericardium, prevented the dilatation of the heart's cavities, and the entrance of blood into them. It may still, however, be a debateable question, whether the loss of the heart's irritability, and the ultimate cessation of its action ought to be attributed more immediately to the first injury of its substance, to the absence of the renewed stimulus of blood within its cavities, or to the impossibility of distention occasioned by the pressure from without.

References to the Plate.

a. Site of the rupture, with bristle or probe introduced.
b. Ecchymotic spot.

129 George Street, Edinburgh,
March 1, 1845.

Article II.—*Case of Placental Presentation in which the Placenta was spontaneously expelled before the Child. By* J. Tennent, Esq., *Brighton.*

Mrs N———, aged 42, in the seventh month of her fourteenth pregnancy, calculating from the period of quickening, for she had ceased to menstruate five or six months previous to conception, was on 12th of January last, suddenly seized with violent uterine hemorrhage. Mr Robert Dix, who was called in, found no difficulty in arresting the loss of blood.

About eight days afterwards flooding again took place, but in a less degree, and soon ceased on the patient having recourse to the means prescribed in the first instance. On the 30th January at 3 o'clock P.M., profuse hemorrhage again took place, when being requested to attend to the case by Mr Dix, I found the patient much exhausted from loss of blood, entirely free from pains, and with the os uteri not sufficiently dilated to admit the point of the finger. By persisting in the means prescribed by Mr

Dix, the flooding soon ceased, and in the course of an hour, after attending to the general state of the patient, I was able to leave her somewhat improved in strength. At half-past 10 o'clock of the same night, I was again called, hemorrhage having recommenced. The os uteri could now admit the finger, and the placenta was discovered presenting. The head of the child could also be felt through the anterior parietes of the uterus. The patient still continued free from uterine pains. I now administered half-drachm doses of secale cornutum every half-hour till three doses had been given, without in the smallest degree inducing perceptible uterine action; but with the effect of arresting the hemorrhage, no return of which took place till half-past six in the morning. In the interval, the patient occasionally slept for a few minutes, but very lightly; and now and then showed symptoms of delirium.

On this fresh accession of flooding I felt anxious to relieve the patient from her imminent danger, but before having recourse to any operative proceeding, I considered it right to have the advice of the gentleman who placed the patient under my care, I therefore despatched a messenger for Mr Dix, who promptly attended. Before his arrival, however, the hemorrhage had again ceased.

Mr Dix, whose long and extensive practice,—especially in this particular branch of the profession,—entitles his opinion to the highest consideration, still recommended non-interference, trusting that some refreshing sleep, indications of which were beginning to manifest themselves, would place the patient in a more favourable state for the operation of turning, should it be necessary. I again visited the patient about 12 noon, she had slept for some time, and seemed greatly refreshed and full of hope. There had been no return of hemorrhage, and slight pains had commenced about half an hour ago. The os uteri was dilated to the size of a crown piece. The placenta felt as if the blood had been almost entirely pressed out of it. The pains progressively increased in strength, pushing the placenta before the head, somewhat in the form of the unruptured membranes, whose place it in a great measure supplied, in dilating the external parts. In the event of a renewal of hemorrhage to any important amount, while these pains continued, I determined to remove the placenta; such, however, not occurring, nature was allowed to complete the labour. The placenta was expelled at a quarter past one o'clock; and the fœtus, by the next three pains, which occupied about ten minutes. The child seemed to be one of seven months fully, and must have been dead for some days. There was no post-partum hemorrhage, and the patient recovered rapidly without one bad symptom.

I had just returned from the above case, when the February number of the MONTHLY JOURNAL was put into my hands. On turning to the communication of Professor Simpson to the Medico-Chirurgical Society of Edinburgh, on the Spontaneous Expulsion and Artificial Extraction of the Placenta before the Child, in

placental presentation, it afforded me no small degree of satisfaction to see the course we had followed recommended by one standing so high in his profession as Dr Simpson. The case I have related, in my humble opinion, tends to confirm the doctrine laid down by Dr Simpson, that the patient enjoys an immunity from hemorrhage so soon as the placenta is completely detached from the uterus—for I firmly believe, that from the period the hemorrhage finally ceased, the placenta had no other connection with the uterus than any other part of the ovum. Would it not be advisable in cases of placental presentation, when the fœtus presents naturally, and is ascertained to be dead, as soon as possible to completely detach the placenta from the uterus, and allow nature to complete the delivery?

Brighton, 10th April 1845.

Article III.—*Notices of Cases treated in the Medical Wards of the Glasgow Royal Infirmary. By* William Weir, M.D., *one of the Physicians to that Institution.*

During a period of two years, from November 1840 till November 1842, while I acted as one of the physicians to the Royal Infirmary, there were admitted into my wards nearly 1000 patients, male and female. I have unfortunately the particulars of 912 cases only, in consequence of one of the journals (containing probably from 60 to 80) having been lost. Of the 912 cases, the males were 527; and the females 385. The following is a summary of the results:—

	Males.	Females.	Total.
Cured,	288	214	502
Relieved,	118	92	210
Died,	62	46	108
Incurable, advice, &c.	59	33	92
	527	385	912

The deaths, therefore, appear to have been nearly the same in both sexes, viz., one in eight and a half, a result different from what usually occurs in hospitals,—the average mortality in such institutions among men being generally higher than among women. Of the various diseases with which these patients were afflicted, affections of the heart and lungs occupy by far the most prominent place. Organic disease of the former organ, giving rise to the different varieties of dropsy, is extremely prevalent among those who frequent our Infirmary, and nearly all such cases prove fatal at one time or another. Some of them, no doubt, have the symptoms much mitigated, and are dismissed "relieved;" for I believe there are very few diseases so often relieved temporarily, by appro-

priate treatment, as dropsy depending upon diseased heart; but the great proportion ultimately return to the hospital to die.

Of these patients, twenty-four were males, and eighteen females, making in all forty-two; of whom there died nineteen, being nearly one-half. Of the fatal cases, eleven were males and eight females. Of the various diseases of the lungs, acute and chronic, another great cause of mortality among our labouring population, there were one hundred and eighty-two cases, (one hundred and twenty-two males and sixty females), producing the deaths of thirty-six persons, of whom twenty-two were males, and fourteen females; thus giving an average mortality of one in five. This proportion may perhaps be considered high, since there are included amongst them a number of slight cases of acute and chronic bronchitis, pleuritis, and pneumonia, many of which recover; but it is to be recollected, that cases of disease of the lungs, occurring in aged people of both sexes who have led irregular and dissipated lives, are extremely numerous, and with such no kind of treatment is available. These increase the mortality greatly. If those two classes of cases, amounting together to two hundred and twenty-four, be deducted from the whole nine hundred and twelve, there will be left six hundred and eighty-eight cases of all other affections, giving fifty-three deaths, or an average mortality of one in thirteen.

I may at some future period take up the subject of dropsy, arising from diseased heart; but at present I shall confine myself to a few cases of disease of the lungs which appear worthy of being recorded, from their peculiar symptoms, progress, or results.

CASE 1. PNEUMONIA, TERMINATING IN VOMICA, IN WHICH THE PUS PENETRATED THE PLEURA AND INTEGUMENTS, DISCHARGING ITSELF EXTERNALLY.—James Kelly, aged twenty, a labourer, was admitted on the 7th of July 1841.

A week ago, after exposure to cold and wet, he was seized with rigors, feverishness, cough, and acute pain in the left side. At present, he complains of severe pain in the lower and lateral parts of the left side of the chest, aggravated by deep inspiration or coughing. He has also great difficulty of breathing, with severe cough, and copious yellow muco-purulent expectoration. The countenance is anxious; the pulse is 128, and rather feeble. He perspires much; complains of great thirst; his tongue is foul; bowels costive; urine scanty, and high coloured. The left side of his chest is the most prominent, and measures about half an inch more than the other. The intercostal spaces are fuller than natural, and also painful on pressure; the movements of the ribs on the left side are contracted. The percussion sound on the right side is good, and the respiratory murmur is distinct and natural; percussion in the left side is dull throughout; and the respiration at the superior parts is heard but indistinctly; at the inferior parts it is quite inaudible. He states that he has been bled, has had a

blister applied to his chest, and has taken some medicine, but without any benefit.—*Blister to the affected side.—Calomel and opium.—Mucilaginous cough-mixture.*

On the 8th and 9th the symptoms were not mitigated. The dyspnœa was very great, the respirations being 40 in the minute; the pulse was 132, and the cough severe, with very copious expectoration. On the 11th, he had some diarrhœa, which appeared to relieve him. "He can now take a full inspiration without much pain. His cough is easier. His expectoration is diminished in quantity, and his appetite is improving."—*Omit the calomel and opium.—R. pulv. Doveri gr.x. Hydr. cum creta gr.iv. M. Sumat omni nocte.*

After this, he complained but little of the pain in the side, but the dyspnœa and cough continued; the pulse was rapid and feeble, his bowels continued loose, and there was progressive emaciation.

On the 14th the following report was taken:—"A swelling of the size of the fist has formed over the left side of the chest, at the inferior part, about the situation of the seventh rib, four or five inches from the sternum, and a smaller one is discovered higher up, a little to the left of the region of the heart. Both fluctuate, but do not appear to communicate with one another. The respiration is slightly audible above these swellings on the left side, and quite clear all over the right side. Nothing can be heard over the tumours themselves, or below them, either before or behind. The pulse is 120, and very feeble. The bowels are still loose. He perspires much."—*Vini rubri ℥viii. Pil. opii grss. Omni nocte.*

15*th July.* The larger swelling was punctured, and about four ounces of thick fœtid purulent matter discharged, along with a few bubbles of air, after which it became quite flaccid, without any change taking place upon the upper tumour. After the operation the pulse was 120. The next day the swelling was as large as before, and the wound had healed. It was again punctured, when six ounces of matter were discharged. The expectoration was very copious, and mixed with blood. As the diarrhœa continued, he was ordered chalk mixture, with catechu. On the 18th, the abscess was again opened, and six ounces more of matter evacuated. The breathing was very hurried, and the countenance anxious. The debility increased.

20*th July.* Both abscesses were punctured, and about sixteen ounces of thick purulent matter drawn off. The bowels are still loose. The pulse is 130, and very feeble. The respiration is short, and very quick. The cough has been very severe, with copious and fœtid expectoration. The allowance of wine was increased, and the astringent mixture continued.

21*st July.* Last night the dressings came off, and about twelve ounces of matter escaped from the lower abscess. To-day both have continued to discharge a thin dark-coloured matter freely.

For some days after this the abscess continued to discharge copiously, while he also expectorated large quantities of matter of a similar appearance, the cough being severe and distressing. Air escaped freely from the openings when he coughed. His strength was kept up as well as possible, by nourishing food, when he could take it, and large quantities of wine and spirits; but the diarrhœa and profuse discharge continuing, he slowly sunk, and died on the evening of the 2d August.

Inspection nineteen hours after death.—The two layers of the left pleura were much thickened by the effusion of lymph upon them, and adhered firmly at all points. The lung was soft, and very much disorganised, excepting a small portion of the inferior lobe, which was quite solid. In the posterior and middle part there was a large abscess, and more anteriorly a smaller one; but, owing to the softened state of the lung, it could not be clearly ascertained whether or not the two abscesses communicated with one another. Both contained some thin fœtid purulent matter, and led by fistulous passages to the external openings, through which a probe could be passed a considerable way into the lung. The ribs at the external openings were carious, and the integuments were detached for several inches around them. The right lung and heart were perfectly natural; and there was no tuberculous deposit in either of the lungs. In the lower part of the ileum were some dark-coloured congested patches, and several enlarged Peyer's glands, but no ulceration was seen. The other viscera were healthy.

Remarks.—This case, when first admitted, was considered one of acute pleuritis, with extensive effusion. The history of the disease, and the short time it had continued, with the symptoms present on admission,—the enlargement of the left side, the fulness of the intercostal spaces, and the whole of the physical signs,—naturally led to this opinion. It was soon ascertained, however, that the lung was also implicated; and the appearances discovered on dissection show that it was a case of pleuro-pneumonia, ending in extensive vomica. That the inflammation commenced in the pleura and spread to the substance of the lung, is not so likely as that both were affected simultaneously; the former secreting coagulable lymph, and producing extensive adhesions early in the disease, while the pneumonitis proceeded more slowly, and terminated in suppuration. The fact of the increased size of the left side, and the projection of the intercostal spaces, so early as the seventh day from the commencement of the disease, is no doubt against this opinion, and would rather indicate empyema; but it is not possible, if empyema had existed at that time, that the whole of the fluid would have been absorbed, and close firm adhesion found at the end of three weeks, when the man died; and from the first opening of the abscess the matter appeared to come from the substance of the lungs, and was evidently well-formed pus, not the thin serous fluid which is more generally found in cases of empyema. It is, no

doubt, possible that the suppuration in the lung took place first, and that the matter speedily found its way into the cavity of the pleura, giving rise to inflammation of that membrane, and that the adhesion took place after the matter was evacuated externally, a period of sixteen days having elapsed from the first opening of the abscess till the man's death. But this would be to suppose a very rare mode of progress and termination of acute pneumonitis. In whatever way the early symptoms and physical signs are to be explained, it seems to me clear, that this was not a case of simple empyema, but of abscess in the substance of the lung, progressing in the way already mentioned. I may remark farther, that there was no tuberculous deposit found in either lung, so that it appears to have been an instance of true abscess from simple inflammation in an otherwise healthy lung,—rather a rare occurrence, according to most authors, acute pneumonitis terminating most generally in hepatization, or extensive purulent infiltration, while true vomica is caused by inflammation excited by tubercles or some other morbid deposit.

The following is a case similar to many that occur, in which inflammation attacks the lungs in a phthisical subject, causes the tubercles to become developed, producing extensive disorganisation, rapid consumption, and death. The diagnosis drawn by a young gentleman who acted as my clerk, chiefly from the physical signs, a few days before the man's death, was proved by the appearances found on dissection to be remarkably correct.

Case 2. Acute Pneumonia—Phthisis—Death.—Allan M'Donald, aged twenty-seven, labourer, was admitted 7th December 1841.

He has a severe cough, with muco-purulent expectoration; also difficulty of breathing, much increased on the slightest exertion, but attended with no pain of the chest. His cough has been present for the last six months, but was never severe until about a month ago, when he was seized with febrile symptoms, and dyspnœa, in consequence of cold and wet, which gradually increased until the time of his admission. His pulse is 120, full, and soft. The bowels are regular, and the appetite is unimpaired. The tongue is dry and foul. He can lie on either side, but feels easiest on the left. Percussion yields a dull sound over the whole of the left side, but a tolerably clear one on the right; sibilant and mucous râles are heard on both sides, and there is a moist crepitus which is most distinct on the left.—*Ten drops of antimonial wine every three hours.—A sinapism to the chest.*

9th December.—The breathing is very rapid; and the cough continues severe, with expectoration of thick yellow tenacious matter. The pulse is 132. Percussion on the right side still gives a clear sound, except immediately below the clavicle, where it is rather dull.

Dulness remains on the left side, and moist crepitating râles are heard on both sides.—*Blister to the chest.—Calomel and opium at bed-time.—Cough-mixture.*

On the 12*th*, he complained of pain over the sternum; the other symptoms remained the same. The pulse is 124, and the blistered surface has healed.—*Another blister.—Omit the antimonial wine.*

The disease went on, the cough and dyspnœa continuing severe, notwithstanding anodynes, counter-irritation, and occasional doses of blue pill.

On the 29*th*, the tincture of digitalis was added to his cough-mixture, and, in a few days, the pulse, which had never been below 120, fell to 76, and there appeared to be some improvement. On the 28th December the report was, "Continues to improve. Pulse 76. Percussion clear. Appetite good. Breathing much easier. Bowels rather loose." On the 31st, "Bowels still loose. His pulse being irregular the mixture was omitted. Appetite falling off."—*Astringent draught. A pint of porter daily.*

This improvement did not continue long, for on the 3d January the report was, "Bowels now regular, but cough and dyspnœa are again very severe, and expectoration very copious."—*Blister to his chest.*

On the 4th January, the following diagnosis was set down in the journal, by the young gentleman who acted as temporary clerk. "In the same state as yesterday. On examination with the stethoscope there were signs of a very large cavity in the left lung, extending almost from top to half-way down. No pectoriloquy is heard here; the front wall of the cavity appears to be very thin. In the right lung there is also a large cavity, but not so extensive as on the other side. In it pectoriloquy is heard."

Diarrhœa soon returned, producing great exhaustion, and ultimately death on the 6th January.

Inspection of the body.—Much false membrane on the pleura, and strong adhesions existing on both sides of the chest. Right lung extensively studded with tubercules in various stages of progress, and in the upper part numerous small vomicæ containing thin purulent matter. Tubercles also throughout the whole of the left lung, and at its upper part numerous and large vomicæ, quite superficial, extending to the anterior surface, and communicating with each other. Lower part of the lung solid; some fluid in the chest, clear serum without any shreds of false membranes floating in it. Near the termination of the ileum several ulcerations of mucous membrane were found.

It will be observed that in this case the symptoms were never mitigated, except for a day or two, a short time before death. The disease went on steadily from the admission of the patient, and proved fatal, both lungs breaking up very rapidly. It is probable that on the 7th December, when the moist crepitus was distinct on both sides, and percussion still gave a dull sound below the clavicle,

the tubercles were still in an indurated state, and the inflammation continuing all the time till death, a period of a month, suppuration gradually took place, and a succession of abscesses were formed, constituting the vomicæ found on dissection. On the 2d January, when pectoriloquy was heard on the right side, no such sound could be discovered on the left, probably from the cavities being very full of matter; but there was great resonance of voice on both sides, and cavernous respiration was distinct, although not mentioned in the reports.

The morbid appearances found on dissection were satisfactory. On the right side the false membrane was firm, and adhesions strong, and were therefore probably of long standing, since there were no symptoms shortly before death of pleuritis; and the fluid found in the lower part of the chest was clear, and not mixed with flakes of coagulable lymph. This lung was universally hepatised, except around the abscesses, where softening existed to a certain extent, and loaded with numerous masses of tubercules. The left lung was still more diseased, being also full of tubercules and vomicæ, and having a larger cavity, with its walls close to the pleura. The diagnosis, therefore, was quite correct, and the morbid appearances explained the symptoms and physical signs satisfactorily.

The two following cases are similar to each in many respects, and will be considered interesting, as presenting examples of the power of Nature in relieving or curing diseases, and also of the manner she proceeds in effecting her purpose. It so happened, that both patients were in the ward at the same time, and from their history, and the rather singular termination of the disease, they attracted considerable attention among the students and medical gentlemen connected with the hospital. Their history is incomplete, however, inasmuch as the exact state of parts was not ascertained, both of them having been dismissed "relieved," after being under treatment for a few weeks.

Case 3. Chronic pleurisy with fistulous discharge from the chest.—Robert Watson, aged thirteen, was admitted on the 31st October 1841.

Four and a half years ago, after exposure to cold, he was seized with a severe shivering fit, followed by pain in the chest, and other symptoms of inflammation; and in a short time his right side became considerably enlarged in size, and an abscess formed in it. This was opened at the intercostal space, below the mamma, and gave exit to a considerable quantity of pus, which it has continued to discharge at intervals since. Before the puncture was made, the patient was in the habit of coughing up purulent matter in considerable quantities, but now he only does so occasionally, and in minute quantity. The sinus has been closed for a fortnight, so

that its extent cannot at present be ascertained. About three years ago two small pieces of bone were observed to come away by the sinus, but none has separated since that time. The legs are œdematous, and the last phalanx of each finger and toe are at present swollen, and of a peculiar appearance. The right side of chest, below the sinus, measures an inch more than the left, and over the sinus half an inch more than the left. The percussion of the upper part of the right side is dull; that of the left side is pretty good. On the left side the respiration is natural; on the right side, around the sinus, it is heard very indistinctly, and in the upper part of this side vocal resonance is much louder than natural. There is expectoration of a brown colour, occasionally streaked with blood. He is rather emaciated, but his general health seems very good. His tongue is clean; bowels regular; pulse 88, weak; and the cough at times is very severe.—*Cough mixture. Compound rhubarb pill.*

On the 1st November, the abscess began to discharge matter, and expectoration to diminish considerably. A blister, and afterwards an issue, was applied to the chest, a little below the sinus, and he was ordered a variety of remedies to relieve his cough. The fistula closed up, and re-opened several times during his residence in the hospital, without producing much change in his health; and as there was little appearance of a permanent cure, he expressed a wish to go home. He was therefore dismissed "relieved," on the 12th December. The report of that date is, "Sinus still continues to open and discharge occasionally, but with the exception of some cough, his general health does not seem much affected.

It appears that this boy must have had pleuro-pneumonia, or pleuritis with effusion, about four and a half years before admission. It is probable that the affection was partial, and that the fluid forced its way between the ribs, formed an abscess, and was opened below the mamma. Before this, however, he was in the habit of coughing up considerable quantities of matter, indicating disease of the lungs themselves, and now, from the expectoration, and the discharge from the fistula alternating so much with each other, there is reason to suppose that there is a communication with the bronchial tubes; and that the matter expectorated comes from an abscess in the lung, being necessarily much increased in quantity when the external fistula closes. There was no air, however, at any time observed escaping from the fistulous opening, nor could the probe be passed into it for any length in any direction.

Case 4. Chronic Pleurisy, with fistulous opening into the chest.—Charles Meikle, aged twenty-nine, admitted 12th November 1841.

Situated on the right side of the chest are four small fistulous openings discharging thin purulent matter. The three superior are placed over the pectoral muscle, a few inches below the clavicle, and a probe can be passed under that muscle for a few inches.

They are near each other, and communicate freely. The inferior is placed over the fifth rib, about midway between the sternum and the spine. A probe can be passed for four inches directly inwards, apparently into the chest. These sinuses have no appearance of healing. They discharge copiously, particularly when the patient coughs. The general health is not much impaired; he has scarcely any pain in the chest, and no dyspnœa, but has considerable cough, with scanty mucous expectoration. Some time ago he was emaciated, and had night sweats, but has of late rather improved in strength. Appetite very good. Tongue clean. Bowels loose. Percussion yields a dull sound over the whole of the right side; and below the clavicle, the resonance of voice is remarkably loud, almost amounting to pectoriloquy. Respiration is inaudible over the inferior half of the right side; on the left side percussion is very clear, and the respiration is natural. The right side of the chest is much contracted; the shoulder is lower than the opposite side, and the ribs are fallen inwards. There is also a slight lateral curvature of the spine, and the sternum, at its lower part, is pushed towards the left side.

About six years ago he contracted syphilis, for which he took mercury to salivation, and was cured. Twelve months ago, after exposure to cold, he was seized with severe pains in the right hypochondriac region, for which he was bled and blistered with relief. Two months afterwards an abscess formed at the inferior part of the right pectoral muscle, which was opened by a surgeon, and discharged purulent matter copiously; it is now quite cicatrised. Shortly afterwards other abscesses formed, which have been followed by the present fistulous openings.—*Blister applied to his side; Quinine.—Cough mixture.*

18*th November.* The cough continues severe, and there is expectoration of a glairy tenacious matter of a bluish colour. He says that formerly, before the abscesses were opened, expectoration was copious, and of a yellow colour,—similar in appearance to the matter at present discharged from the sinuses.

As the man was of a scrofulous habit of body, it was thought iodine might have some effect in diminishing the discharge, and assisting in healing the sinus. He was therefore ordered six drops of the tincture three times a-day, which he took for a month, gradually increasing the dose to twenty drops of the tincture three times a-day, but without any good effect. On the 9th January 1842, the report is, "Not much improvement, discharge from the side still considerable. Cough continues severe, with expectoration of yellow matter. Iodine has been gradually increased to twenty drops three times a-day, but given up some days ago on account of headach. Pulse rather feeble." He was now ordered quinine and sulphuric acid, which he took during the rest of the time he remained in the hospital, with the effect of recruiting his strength. On the 17th he was "dismissed with advice," the report of that day being, "Cough still continues; expectoration as formerly; dis-

charge from side very considerable. Increased resonance of voice below the right clavicle, and much dulness on percussion both before and behind. Left side clear, and respiration puerile. Is recommended to go home, and is dismissed with advice."

From the history of this case it would appear that the man had been seized with pleuritis twelve months before admission, and that two months afterwards, the effusion found its way outwardly. The opening first made, gradually closed, and another took place subsequently. I consider that only one of the fistulæ now present communicates with the cavity of the chest, the rest being merely superficial. From the great dulness of percussion, and the respiration being inaudible over almost the whole right side, with the increased resonance of voice below the clavicle, and the deformity of the chest, it is probable that the lung is greatly compressed, adhering to the ribs a considerable way round, with an abscess in the pleura supplying the matter.

These two cases have many points of similarity. In both, there had been previous pleuritis, with copious effusion; in both, the fluid found its way through the parietes of the chest, and formed an abscess; and in both, the abscess was opened, and a fistulous communication with the cavity of the chest took place, which still remains. In both, the disease has proceeded exactly as chronic pleuritis is described by the best writers sometimes to do. Both patients have gradually recovered to a certain extent, their general health has greatly improved, and their disease has become little more than a local affection. In the boy, the lower part of the chest is still enlarged, although at the top it has slightly fallen in. There is probably still some fluid in the chest, confined, and not in communication with the fistulous opening. If so, it may be absorbed in the course of time, and the chest will become contracted and deformed. In the man this process has already taken palce. The ribs have fallen in considerably, the shoulder is lowered, and the patient leans to that side. This will very likely increase, and the deformity become greater. The present appearance of this man's chest is almost exactly similar to that represented in Plates VI. and VII. of Laennec's work, 3d edition, 1829. In both, it is probable the lung is considerably compressed, adhering and bound down firmly to the ribs, so that only a portion of the upper part is capable of performing its functions, and this imperfectly. In the boy, also, there are many symptoms of disease in the lung itself. The violence of the cough, the increased expectoration when the fistula is closed, and the sputa occasionally mixed with blood, would almost lead to the supposition, as formerly mentioned, that an abscess in the lung itself is the source of the external discharge. I do not conceive much good can be done in these cases by medical treatment. The patients may live a long time if an acute attack does not supervene, to which, however, they are peculiarly liable.

These cases are proofs of the fact, that nature frequently takes the cure or relief of pleuritis into her own hands, and very often succeeds completely, or, at all events, preserves the patient's life for a long time. In the first instance, the acute inflammation is got rid of by the effusion which is so commonly a result of, or, more correctly, an attendant upon, the disease; and in the second, the fluid is gradually absorbed by the long-continued efforts of nature alone, or it passes through the walls of the chest, and is discharged externally. It even sometimes passes through the pulmonary tissue, gets into the bronchial tubes, and is expectorated. Any of these processes, no doubt, takes a very long time to accomplish, but the fact that such processes do take place is undoubted, and they will very generally be attended with visible signs, in the falling in of the ribs, lowering of the shoulders, and consequent deformity of the chest, so well exemplified in the case of the man, and partially in that of the boy.

Buchanan Street, Glasgow,
February 1845.

PART SECOND.

REVIEWS.

Anatomical and Pathological Observations. By John Goodsir, F.R.S.E., *Demonstrator of Anatomy in the University of Edinburgh; and* Harry D. S. Goodsir, M.W.S., *Conservator of the Museum of the Royal College of Surgeons, Edinburgh.* Plates. 8vo, pp. 127. Edin.: 1845.

This small volume contains several very important Anatomico-Physiological and Pathological Memoirs. They chiefly bear upon the mode in which the functions of nutrition, secretion, and absorption, are effected, and contain descriptions of new structures, and very ingenious speculations upon their uses, which are highly deserving of the attention of those who are occupied in investigating the more difficult branches of physiology and morbid anatomy.

The First Chapter treats of the *Centres of Nutrition.* "By centres of nutrition the author (Mr J. Goodsir) understands certain minute cellular parts existing in the textures and organs." After pointing out that the centre of nutrition, with which we are most familiar, is the germinal spot of the ovum, from which all the other nutritive centres of the various tissues are derived, he proceeds to remark, that not only "the entire organism, as has been stated by the authors of the cellular theory, consists of simple or developed cells, each having a peculiar independent vitality, but that there is, in addition, a division of the whole into compartments, each containing a certain number of simple or developed cells, all of which hold certain relations to one central or capital cell, around which they are grouped. It would appear, that from this central cell all the other cells of its department derive their origin." According to this

view, centres of nutrition are of two kinds,—those which belong to the organs, and those which are peculiar to the tissues. Those which belong to the organs are those out of which these organs are first elaborated, and either disappear entirely during their development, or form the various centres of the textures of which these organs are composed. The nutritive centres of the tissues are in general permanent, and each texture may be divided into compartments, each having its own centre of nutrition. Each nutritive centre, anatomically considered, is a cell, the nucleus of which produces successive crops of young cells, which, by their growth, distend the cell-wall of the parent cell, and "pass off in certain directions, and under various forms, according to the texture or organ of which they form a part." "There is one form in which nutritive centres are arranged both in healthy and morbid parts, which is frequently alluded to in the following chapters, and which may be termed a germinal membrane." This germinal membrane, which is the basement membrane of Mr Bowman, is found on the free surfaces of other textures, and forms the superficial layer of the mucous and serous membranes of the body. According to Mr J. Goodsir, it is composed of flattened cells united along their edges, and having their nuclei adhering to their posterior walls. The external surface of this membrane is adherent to the subjacent layer of areolar tissue, while the interior or internal is free or unadherent. Within these cells, which may be called primary, other cells, which may be termed secondary, are developed from the contained nuclei, and become adherent to the anterior wall of the primary cells, and by these the anterior wall, which is the thinnest, is carried forward, while the nuclei or germinal centres remain fixed in the posterior layer, and in close proximity to the blood-vessels which ramify in the subjacent areolar tissue.

In the Second Chapter, Mr J. Goodsir describes the *Structures and Functions of the Intestinal Villi*. It is well known that Mr Cruickshank and Dr William Hunter supposed that they had observed the lacteal vessels commencing on the villi of the intestines by open mouths. Modern anatomists have satisfied themselves, that the lacteals do not open upon the surface of the intestines, but commence by short extremities which approach very closely to that surface. With regard to the mode in which the chyle passes into the lacteals, physiologists could give no satisfactory account. The notion of simple inlibation was evidently untenable, and some had recourse to the hypothesis, that these vessels possessed some selective property by which they are enabled to reject certain substances, and to take up others. Mr J. Goodsir's researches throw an entirely new light upon this function, and ascribe the absorption of chyle to the agency of cells, and by a process analogous to that of secretion; and give a satisfactory explanation why certain substances should pass into the lacteals, and others should enter the veins. The external surface of a villus is lined by a germinal or basement membrane, the free surface of which is covered by a layer of epithelium cells. These epithelium cells are thrown off every time the chyme passes along the intestines, and are renewed in the intervals by the process described in the first chapter, so that the free surface of the germinal membrane is bare during the absorption of the chyle. Immediately beneath the adherent surface of this germinal membrane, Mr J. Goodsir has discovered a number of spherical cells, varying in size from 1000 to 2000ths of an inch. These, when examined in a dog killed during the chylification, were found to be filled with a fluid of an opalescent milky appearance. The lacteals, on approaching these spherical cells, subdivide and form loops. The fine net-work of the capillary blood-vessels of the villi extends downwards as far as the adherent surface of the germinal membrane. When the chyme is present in the intestines, he believes that the villi become turgid with blood, erect and naked; that the vesicular cells, interposed among the terminal loops of the lacteals, increase in size by drawing some of the materials of the blood through the thin coats of the capillary vessels, and that while this is proceeding, they begin likewise to "exert their absorbing function, and draw into their cavities that portion of the chyme in the gut necessary to supply materials for the chyle. When the vesicles respectively attain in succession their specific size, they burst or dissolve, their contents being cast into the texture of the villus, as in

the case of any other species of interstitial cell. The debris, and the contents of the dissolved chyle cells, as well as the other matters which have already subserved the nutrition of the villus, pass into the looped net-work of lacteals, which, like other lymphatics, are continually employed in this peculiar function. As long as the cavity of the gut contains chyme, the vesicles of the terminal extremity of the villi continue to develope, to absorb chyle, and to burst, and their remains and contents to be removed along the lacteals." Mr J. Goodsir also points out, that there is a close analogy between the structure and functions of the spongioles of plants and the villi of the intestines of animals, which give additional force to the remark of Boerhaave, that the lacteals are to animals what the roots are to vegetables, and anticipating some of the deductions from the data given in a subsequent chapter, he concludes, "the spongioles of the root, the vesicles of the villus, the last layer of the cells which cover the vas lutea of the dependent yolk, and the cells which cover the tufts of the placenta, are the parts of the organism in which the alimentary matters first form a part of that organism, and undergo the first step of the organising process."

The Third Chapter is entitled, *Absorption, Ulceration, and the Structures engaged in these Processes.* It is well known that interstitial absorption and ulceration are both by physiologists and pathologists attributed to the action of lymphatics and veins, and much controversy has at different times been carried on among those who believe that one set of vessels is engaged in the performance of this function. Mr J. Goodsir states, in the observations which he has to make on this question, that it is not his "intention to question entirely the active agency of the veins and lymphatics in absorption and ulceration, but merely to direct attention to the subject, and to point out, in some of the following chapters, a few organic processes in which these actions appear to be functions independent of the vessels, the latter being passive agents, mere ducts for conveying the products of action." Mr J. Goodsir announces the existence of a thin layer of cells upon the surface of a rapidly extending ulcerated surface, and attributes the disappearance of the subjacent tissues to the action of these cells. These cells are in a state of rapid formation and disformation, and derive the materials for their increment from the adjacent tissues. The forces developed by the growth of these new cells disturb and overcome the cohesive properties of the subjacent textures, and appropriate the materials thus elaborated for their own nutrition. On the other hand, the materials set loose by the breaking up of the anormal layer of cells on the surface, are either thrown off as a discharge from the surface of the ulcer, or pass into the interior of the lymphatics and blood-vessels. The process by which a portion of dead is separated from the living bone is essentially the same as that just described. The Haversian canals, which immediately bound the dead or dying bone, are enlarged contemporaneously with the filling of their cavities with a cellular growth. As this proceeds, contiguous canals are thrown into one another. At last, the dead or dying bone is connected to the living by the cellular mass alone. It is now loose, and has become so in consequence of the cellular layer which surrounds it, presenting a free surface, and throwing off pus."

In the Fourth Chapter the *Removal of Articular Cartilages by Ulceration* is also explained by a process similar to that described in the previous chapter. The gelatinous membrane covering the articular cartilages in scrofulous diseases of the joints is composed, according to Mr J. Goodsir, of organic cells intermixed with blood-vessels, and these cells he believes to be the instruments of absorption. When the cartilage is removed by absorption from within outwards, as in scrofulous disease of the cancellated structure of the heads of the bones, this also is due to the action of a vascular cellular texture in contact with the attached surface of the cartilage.

The Fifth Chapter treats of *Secreting Structures.* The researches of anatomists, particularly those of Malpighi and Müller, have proved that the ducts of glands terminate in short extremities, around which numerous capillary blood-vessels are arranged, and that a gland, physiologically considered, is a convenient method of packing an extended secreting surface in a small space. Modern ana-

tomists, more especially Henle, have also demonstrated, that the internal surface of these ducts is lined with a layer of epithelium cells. We have already pointed out that Mr J. Goodsir considers these epithelium cells as secondary cells, formed by the primary cells of the basement or germinal membrane, to the surface of which they adhere. Purkinge and Schwann suggested that these nucleated epithelium cells may be organs of secretion, but advanced no satisfactory evidence in support of their opinion. Mr J. Goodsir, in a paper in the *Edinburgh Philosophical Transactions*, 1842, pointed out the presence of fluids in the nucleated epithelium cells of the secreting organs in different animal bodies, presenting the physical characters of the known secretions of these organs. In this chapter he recapitulates the principal facts contained in the paper referred to, and advances additional evidence that the ultimate secreting structure is an organic cell, endowed with certain properties by which it is enabled to select from the circulating nutritious fluid the blood, those materials which accumulate in its interior. Each cell consists of a cell wall and a nucleus. A cavity exists between the outer surface of the nucleus, and the inner surface of the cell wall, and it is in the cavity that the secretion is placed. Mr J. Goodsir, in his paper in the *Edinburgh Philosophical Transactions*, attributed the secreting property to the cell wall, but he is now of the opinion of Dr Barry, that the nucleus is the active agent in secretion. Though each secreting surface is provided with cells which present no anatomical differences to which we can attach much importance, yet these cells must possess very different organic properties, those of the liver secreting bile, those of the lacrymal gland tears, &c. We thus perceive that nutrition and secretion differ more in the morphological arrangement of the cells which perform these functions, than in the nature of the functions themselves. The organic properties of the cells, both of nutrition and secretion, draw materials into their interior from the surrounding media; but while the contents of the former pass into the tissues for their increment, those of the latter pass out upon the free surfaces of the body, and no longer form a constituent part of the organism. Mr J. Goodsir then proceeds to state the laws which he has observed to regulate the original formation, the development, and disappearance of these secreting cells, and this leads him to an examination of the minute structure and arrangement of glands and other secreting organs. We cannot afford space for the numerous interesting and important deductions which the author draws from the facts observed by him in prosecuting these researches. We may mention, however, that from these it appears that there are some differences in the anatomical relations of the secreting cells in different stages of their development, and in different secreting organs; that at the extremity of each of the ducts of a gland there are nutritive centres from which successive crops of primary secreting nucleated cells are developed, and thus the secretions which accumulate in these cells are the product of the solution of successive developments of the nucleus, which, in some instances, contain in their component vesicles the peculiar secretions, as in the bile cells of certain mollusca, and in others become developed into the secretion itself, as in seminal cells." In some cases the secondary cells, developed in the primary cells, instead of undergoing any partial or entire dissolution, escape into the interior of the ducts, and "retain so much individuality of life as to proceed in their development to a greater or less extent in their course along the canal or duct, before they arrive at their full extent of elimination. A remarkable example of this kind of secretion has been brought to light by the researches of Mr H. D. Goodsir, upon the seminal secretion in the decapodus crustaceans, which form the subject of the Sixth Chapter. In these animals the secondary leave the primary cells, continue their development in their progress along the seminal tubes, and in some cases, at least, they are not fully maturated until after they have been thrown into the spermatheca of the female. The materials necessary for the nourishment of these secondary cells, during the development which they undergo in passing along the seminal tube, is apparently furnished by an albuminous fluid secreted from the inner surface of that tube.

In the Seventh Chapter, Mr J. Goodsir gives a short account of *the Structure*

of Serous Membranes. He states, that "a portion of the human pleura or peritoneum will be found to consist, from its free surface inwards, of a layer of nucleated scales, of a germinal membrane, and of the sub-serous areolar texture intermixed with occasional elastic fibres. The blood-vessels of the serous membrane ramify in the areolar texture." He suggests that the inflammatory effusions thrown out on the free surfaces of serous membranes may result from some disturbance in the organic powers of the nucleated cells, and not from any change in the actions of the blood-vessels.

In the Eighth Chapter, Mr J. Goodsir examines the *Structure of the Lymphatic Glands.* It is well known that a lymphatic gland consists of a close network of lymphatic vessels, intermixed with numerous blood-vessels and nerves. It is now pretty generally admitted, that there is no direct communication between the lymphatic vessels and veins in the interior of these glands. The coats of a lymphatic vessel are, proceeding from without inwards, a filamentous or areolar coat, a fibrous or middle tunic, and a layer of epithelium, adhering to a very fine membrane. As a lymphatic vessel enters a gland, its middle or fibrous tunic becomes thinner, and almost entirely disappears; the external or areolar tunic appears to pass almost entirely into the external capsule of the gland; while the nucleated cells of the internal coat begin to increase rapidly in number. This increase in the thickness of the internal coat attains its maximum about the centre of the gland, when it constitutes a granular layer of considerable thickness. The coats of the lymphatics which have come out of a gland, or the vasa efferentia, are exactly similar to those of the vasa inferentia. If this view of the structure of the lymphatic vessels be correct, their internal membrane is a germinal membrane, the cells of which in all probability exercise functions similar to those found on the internal surfaces of secreting organs.

In the Ninth chapter Mr J. Goodsir gives a minute description of *the Structure of the Human Placenta.* According to Mr J. Goodsir the walls of the tuft and villi of the placenta are composed of the following textures. 1st, A fine transparent membrane, continuous with the internal membrane of the vascular system of the mother, described by Dr J. Reid. 2d, A layer of cells, the external cells of the villi, described by Mr Dalrymple. Mr J. Goodsir believes that those cells adhere to the outer surface of a very fine membrane, and if this be the case, this second layer of the villi is a germinal membrane, and performs the functions of such membranes in other parts of the organism. This second layer he believes to be continuous with, and to form a part of the decidua. 3d, A membrane even finer and more transparent than the external, immediately bounding the blood-vessels, and which he names, *the internal membrane of the villus.* 4th, A layer of cells, *the internal cells of the villus.* 5th, The blood-vessels of the tufts. The two first form the maternal portion, the two last, the fœtal portion of the placenta. He concurs in the description given by the Hunters, and some later anatomists, of the mode in which the vessels of the mother pass through the decidua. He has also satisfied himself that Weber and Dr Sharpey are right in their description of the conversion of the mucous membrane of the uterus into the decidua vera. He supposes, however, that the decidua reflexa is formed out of the cells separated from the germinal membrane of the mucous follicles of the decidua vera. Those cells he believes to resemble that kind of secretion already described, in which the cells undergo their full developments after their separation from the secretory surface. He concludes from the anatomical constitution of the villi, "that the function of the external cells of the placental villi is to separate from the blood of the mother, the matter destined for the blood of the fœtus. They are therefore secreting cells, and are the remains of the secreting mucous membrane of the uterus." "The functions of the internal cells of the placental villi, is to absorb through the internal membrane the matter secreted by the agency of the external cells of the villi. The external cells of the placental villi perform during intra-uterine existence, a function for which is substituted in extra-uterine life, the digestive action of the gastro-intestinal mucous membrane. The internal cells of the placental villi perform during intra-uterine existence a function, for which is

substituted in extra-uterine life, the action of the absorbing chyle cells of the intestinal villi." Our space will not permit us to do more than merely mention the subjects of the two next chapters. These contain some very interesting observations on the structure and economy of bone, and on the mode of reproduction after death of the shaft of a long bone, by Mr J. Goodsir, in which the doctrine of the agency of organic cells in nutrition and reproduction is still farther illustrated. The remainder of the volume is occupied with two memoirs by Mr H. D. S. Goodsir. The first of these is *in the mode of reproduction of lost parts in the crustacea.* It is well known that when the lower part of the limb of the common crab is crushed or broken, the animal immediately throws off the remaining part close to the body, and that the part thus lost is regenerated. The thrown-off limb is always separated at the same part, and Mr H. D. S. Goodsir has ascertained the very interesting fact, that a glandular-looking organ, composed of small nucleated cells, is placed there, by the agency of which the new limb is formed. The different steps of this process of reproduction are carefully described. The last chapter, which is considerably the largest in the volume, contains an account of *the anatomy and development of the cystic entozoa.* We cannot at present undertake an analysis of this chapter, and we shall content ourselves with stating that it contains minute and clear descriptions of these animals, which afford additional proofs of the physiological doctrines contained in the previous chapters. A considerable number of well-executed lithographic representations of the anatomical structures described in the different chapters are appended. We cannot conclude our notice of this very important volume better than by quoting the following paragraph from the Preface.

"To such as may be inclined to object to the theoretical views which run through and connect these anatomical details, I would only say, that we shall be quite satisfied, if on finding the latter correct, they will allow us to retain the former for future use: feeling assured, that 'there is a certain analogy, constancy, and uniformity in the phenomena or appearances of nature, which are a foundation for general rules': and that 'these are a grammar for the understanding of nature, or that series of effects in the visible world, whereby we are enabled to foresee what will come to pass in the natural course of things.'"

Réflexions et Observations sur le Traitement des Rétrécissements de l'Urètre. *Par* LE DOCTEUR J. BENIQUE. 8vo, pp. 67. Paris: 1845.

This is a purely practical treatise on stricture of the urethra, written to recommend a treatment, new it may be in Paris, but certainly neither novel nor uncommon in this country, namely, by dilatation by graduated bougies not allowed to remain in the canal beyond a few seconds or minutes at a time. Of the two methods of curing stricture by dilatation,—by the elastic catheter, allowed to remain several days in the urethra and bladder, and the use of graduated bougies,—the former would appear to be the most popular in France, while the latter is the one almost constantly preferred in this country. The treatise before us recommends the latter to his countrymen as a *new* method of curing this troublesome disease. If it possess any features of novelty for the English surgeon, it is in the minuteness of the scale of gradation, and the short period ("jamais plus d'une demi-minute," p. 9) during which the bougies are allowed to remain in the urethra. We trust it may have the effect of convincing our continental brethren of the superiority of this simple plan of treatment over all others hitherto proposed, in the vast majority of cases of stricture of the urethra.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

Numerous Perforations in the Small Intestines, following Violent Inflammation. By M. Engel, Town Physician in Nakskov.

On the evening of the 10th of August, a person aged 17 was suddenly attacked, without any observable cause, with symptoms of violent enteritis, which, after about 33 hours continuance, ended in death, notwithstanding bleeding, the application of leeches, and the use of other antiphlogistic remedies. As the family insinuated that purgative remedies might have saved the patient, an examination of the body was allowed, and performed 24 hours after death. They only permitted the lower part of the abdomen to be opened. This region was extraordinarily distended, and hard; percussion produced a somewhat tympanitic sound. After the cavity had been opened, the muscles surrounding were found very rigid, and red; and there immediately came out a considerable quantity of a sanguineous fluid. It amounted to about 2 pots, (4 imperial pints,) and was pretty thick, dark red, and not mixed either with the contents of the stomach, or with excrements. The peritoneal surface of the transverse portion of the colon, which had been distended by gas, was to an inconsiderable extent injected, and the lower half of the duodenum, with the whole of the jejunum and cœcum, were very greatly injected. The red colour in these places became darker and darker, and was at last quite black. Besides the great contrast which the injected portions of intestine presented to that which was sound, or less attacked, a considerable diminution in the volume of the tube was also seen to have taken place. On holding a piece of the duodenum up to the light, three small foramina, following close on each other, were observed. They were of a round form. Other perforations, begun, but not completed, were found in various states of progress, some being advanced through the mucous, and others through both the mucous and the muscular coats. In the jejunum there were more numerous and larger perforations. In the descending portion of the colon there were no perforations to be seen, but the mucous coat—as in the site of the perforations—was much thickened, dark, and red. The left kidney was normal, the right, after being cut through, showed many bloody parts. The sanguineous extravasation found in the lower part of the belly was probably occasioned by the perforations, (about twenty in number,) by which a great many of the smaller blood-vessels had been corroded, as on the closest examination we did not observe rupture of any of the larger.—From the Annual Medical Notices sent in to the Royal College of Health, as quoted in the *Bibliothek for Læger*, No. 1 of 1844.

Ileus, with Evacuation of a Branch of Heath. Observed by M. Jensen, late District Physician in Holstebro.

Christen Jenson, 39 years old, consulted me for complete constipation of eight days standing. He suffered at the same time from a large rupture in the

right groin, which, however, allowed him to repose easily. I confined him to the sick room, where I administered many strong laxatives, together with clysters and anti-spasmodics—all without effect. On the 23d day I made him inject as much plain lukewarm water into the bowels as he could, and he got as much as nine large syringes full,—likewise without effect. He continued to vomit excrements, and his strength sank considerably. I saw that I could have no hope of saving his life, and merely ordered infusion of camomile and peppermint. On the 25th day his bowels opened, and with the first stool he evacuated a branch of heath, of an inch and a half long, and about two lines in thickness. After this his appetite and strength quickly returned, and he left the sick room cured. How and when he had swallowed this branch of heath he did not know. Probably it had been in a paste which he had eaten.—From the Annual Medical Notices sent in to the Royal College of Health, as quoted in the *Bibliothek for Læger*, No. 1 of 1844.

CURE OF PHTHISIS (?) WITH OLEUM JECORIS ASELLI, &c. Observed by P. A. MADRIG, at Frederiksværk.

C. F., 24 years old, (who had menstruated for five months), the child of healthy parents, enjoyed the best health until last May, when she contracted a severe cattarh. There arose a short, dry, tickling cough, which was especially troublesome towards morning, together with dyspnœa, especially on moving, and violent palpitation of the heart. After a short time an intermittent fever appeared, and despite of the remedies applied, the urgency of the symptoms increased, and new ones manifested themselves. There were cough, muco-purulent expectoration, and hectic symptoms. Her condition became worse, till I was consulted in the month of October. I then found her in a high degree of emaciation and exhaustion, with violent perspirations during the night, purulent expectoration, bare, red, punctuated tongue, difficult passage in the bowels, the urine covered with a shining pellicle, and the pulse 130. On percussion and stethoscopy, there was found a cavity under the left clavicle, and under the right the percussion was a little dull, with a slightly bronchial respiration. The palpitation of the heart was much extended. A great number of remedies, all directed against incipient phthisis, had been applied.—What should I here begin with? According to my simple system, (*raadighed*) I approved of almost none of the means that had been tried. I then remembered the notice of a similar case in the *Bibliothek for Laeger*, by Dr Frier, where ol. jecoris aselli was used with success, and therefore resolved to try this means. An emetic of ipecac. was given. As I could not apply moxæ, I laid vesicatories under both clavicles, which were kept open for a long time with tartar emetic ointment. Inwardly a beginning was made with oleum jecoris aselli ℥ss 4 p. d.

Her condition in the month of June is as follows:—Cough and night sweating completely gone; she has recovered strength, begins to get plump, and thinks herself completely cured; but her pulse continues at 100. Upon lately examining her chest, I could not find a trace of the cavity, on the contrary, there was almost no noise of respiration where it had previously been. Under the right clavicle the percussion is somewhat dull, and the respiration a little bronchial. The patient has now given up the use of tea, and uses milk. I have related this case with the intention of affording another proof of the fact that pulmonary cavities can be cured, although I do not think that the patient is free from the danger of new cavities showing themselves. I wish this communication to be received as a well-meant desire to contribute a small mite to the advancement of science.—From the Annual Medical Notices sent in to the Royal College of Health, as quoted in the *Bibliothek for Læger*, No. 1 of 1844.

[To us, ignorant as we are of the author's stethoscopic powers, this case is not "another proof," that "pulmonary cavities can be cured." We believe that cavities in the lungs do often undergo cure; but the perusal of ten

thousand narratives such as the above would never have led us to this belief. Louis established the fact, long ago, upon the sure basis of anatomy.]

Fatal Peritonitis, caused by Perforation of the Intestinal Canal by a Lumbricus. By Professor Svitzer, M.D.

Edward Mebusch, 14 years old, had never from his earliest childhood suffered from any sickness, except the measles. His constitution was very strong. He had always a particularly good appetite, all the functions were in order, and he was at the same time, according to report, an able worker for his age in Mr Lowener's foundry. On the 12th January 1843, he was seized with a "brain typhus," which throughout was not violent. After leeches had been employed several times, ice applied outwardly to the head, cooling remedies, and ice water ordered to be taken, he improved very considerably. I was already congratulating myself on his recovery, when suddenly, on the 23d January, he was seized, without its being possible to discover any probable cause, with symptoms of peritonitis, which was most violent, especially opposite the region of the cœcum and pelvis. A number of leeches, warm bandages, a grain and a half of calomel every second hour, injections, &c. were resorted to. All was ineffectual, and he died on Saturday the 28th January, labouring under symptoms resembling those of strangulated hernia, namely, the facies Hippocratica, hiccough, alvine obstruction, distention of the lower part of the belly, which throughout could not bear to be touched.

As I suspected a hidden cause, I asked, and at last, after much urgent entreaty, received permission from his parents to examine the body. Mr Woldbye performed the operation. Mr Löper, surgeon in the army, and myself were present. During it, it was remarked, that the inflammation had indeed been very violent, but yet altogether confined to the peritoneal covering of the intestine.

The inflammation, singularly enough, did not extend far up in the lower part of the belly. It was confined to a straight line drawn across over the umbilical region, from the one loin to the other. The liver, transverse colon, stomach, and spleen, were altogether unaffected. After the inflamed intestines were cut up, no trace was found of any ailment in their cavity. The mucous membrane, Peyer's glands, and Brunner's glands were quite sound. On thus examining the small intestines, we saw in the umbilical region a place *where a lumbricus had produced a hole in the gut, so that one part of its body lay in the peritoneal, and the other half in the intestinal cavity.*

It appeared probable that the worm, in perforating the intestinal canal, had been the cause of this peritonitis, likewise that bile and excrements had been thus let out into the cavity of the peritoneum. To this conclusion I was led by the fact, that in the treatment of the patient there had not been any kind of reason for expecting so violent an inflammation. Moreover, the hole in the intestines which the lumbricus had made, was found in the direct line by which the inflammation had extended upwards. The inflammation was also especially most violent, and had had the worst effects, partly in the region of the cœcum, (*i. e.* directly below the hole of the lumbricus,) and partly in the true pelvis, where the extravasation, by the law of gravity, must have been especially collected. Lastly, the purulent matter which was found in the lower part of the belly was greenish, doubtless from its being tinged with bile.

I once saw a lumbricus, (in the case of a soldier,) come out through an opened venereal bubo. Indeed, many writers have detailed similar cases, some without, and some with the cure of the patient. A number are collected in Voigtel's *Hand-book of Pathological Anatomy*, 2d vol. pp. 579—582. Halle, 1804.—*Bibliothek for Lœger*, No. 3 for 1844.

Cases of Chlorosis from Onanism in the Male, with Clinical Remarks. By Dr Evans.

Case 1. *Simple Chlorosis.*—G——— K———, aged 19, of a fresh complexion and healthy appearance. This boy had, upon admission, February 20

1845, a loud *bruit de diable* in the cervical vessels, especially of the left side, less perceptible on the right side; the sounds of the heart were distinct and natural, but accompanied through both sounds, and even during the interval of rest, by a hum like the whirr of a wheel rapidly revolving; over the middle and superior part of the sternum a whip sound accompanied the first sound of the heart, the second being normal; the impulse and extent of dulness in the precordial region was natural. He presented no other symptoms, excepting some giddiness in his head, and occasional noises in his ears. His lips were not pale; he had no headach; his tongue was clean; appetite good; no epigastric tenderness; no thirst; bowels regular; he had no cough nor dyspnœa. This lad acknowledged to have been in the constant practice of onanism for some years.

Remarks.—Dr Evans said that he had taken this boy into hospital, principally for the purpose of comparing his symptoms with those of another patient in the same ward, whose disease was of the same kind, but in a more advanced stage, and proceeding from the same cause. This was a case of pure chlorosis at a very incipient period. The students would read in works devoted to the diseases of women, that chlorosis was a disease peculiar to that sex, and depending on amenorrhœa; but it had been shown by Andral and Gavarret that chlorosis depends on a deficiency of the red blood globules; and any cause which will lessen the number of these corpuscules will produce chlorosis in either sex without distinction. The best evidence of the diminution of the red corpuscules, is the existence of that continuous murmur audible in the vessels, to which the name of *bruit de diable* has been given;—provided there does not exist any tumour in the neighbourhood of the vessel, which, by its presence, might originate a bruit. This humming sound was very distinctly recognizable in the cervical vessels of G. K., and it was upon its presence that he (Dr Evans) diagnosed the existence of chlorosis in this case, although the countenance was florid; there was no headach, palpitation, swelled ankles, or other of the symptoms which usually occur in this disease. The cardiac phenomena were worth their attention; there was no evidence whatever of any organic disease of the heart; there was no increase of dulness on percussion, no fremissement, no bruit in either sound under the nipple; but in this situation there was a constant buzz closely resembling a faint bruit de diable, as it may be sometimes heard in the neck, and he believed identical with this sign as to its cause; up the course of the aorta could be heard, during the first sound of the heart, a kind of switching noise, depending, he thought, on the same condition. He looked on these several signs as indications of the impoverished condition of the blood; and he believed that the cardiac phenomena he alluded to were much more frequent in chlorosis than was generally supposed. What was most remarkable in this case was, the exciting cause of the disease; and he believed that when a cervical bruit and other symptoms of chlorosis occurred in a young man who had not suffered from hemorrhage in any form, they afforded a strong ground for suspecting the habitual practice of onanism. In the present case, there was little doubt but that this patient by the use of chalybeates and animal food, and by refraining from the pernicious habit which he had contracted, would shortly get quite well.

CASE 2. *Chlorosis from Onanism; bruit with second sound under left nipple.*—P—M'C—, aged 16, of slight make, and cachectic appearance. He had, upon admission, been three years ill. His lips appeared red when contrasted with the extremely pale condition of his cheeks; his tongue was red, narrow, with elevated papilli, and channelled down the centre; there was some epigastric tenderness, but his appetite was tolerably good; he had no thirst, and his bowels were tolerably regular; he had slight cough, and had at different times spit blood after making unusual exertions; however, no physical signs could be detected in his lungs either upon auscultation or percussion; he had no headach, but occasionally lightness or dizziness, with sometimes noises in his ears; he complained that his sight was not so good as formerly.

What chiefly distressed him was violent and constant palpitations of the heart, increased by exertion; the hand placed on the precordial region recog-

nised a most remarkable fremissement. The boy's chest is somewhat deformed, with a lateral curvature in the spine, and the heart beats midway between the sternum and a line falling vertically from the nipple; but as far as can be collected from his account, he never had pleurisy or rheumatism. When examined with the stethoscope, a bruit was heard accompanying both sounds of the heart, or, more correctly speaking, a bruit was heard with the first sound, which continued along with the second sound and during the interval, so that there was, actually, no period of silence, although there might be of repose. This bruit was of a curious rumbling character, that gave the sensation of a continued fremissement to the ear. The heart beat in perfect time; there was no irregularity in its action; the percussion did not detect more than a natural amount of dulness; the impulse of the heart scarcely anticipated the pulse at the wrist; this pulse was not frequent, but jerking and thrilling; the peculiar sounds in the heart gradually diminished as the stethoscope was carried up the course of the aorta. There was a loud *bruit de diable* in the vessels of the neck. The urine was habitually high coloured and scanty. There was no œdema in any part of the surface. Upon being questioned, he acknowledged a habit of continual onanism.

Diagnosis; *subacute gastritis, chlorosis, and probably some organic disease of the heart.*

He was prescribed scruple doses of bicarbonate of soda dissolved in a tumbler of water three times daily, and a blister to the epigastric region. Two days afterwards he was ordered five grains of the saccharine carbonate of iron and a scruple of bicarbonate of soda to be taken three times a-day: together with meat diet. After continuing on this treatment for twelve days, the following note was taken of his symptoms:—

"His appearance is very much improved; he has acquired some colour in his cheeks; he appears intelligent and lively; he says that he now feels himself quite well; he has no epigastric tenderness; his tongue is more moist, but is in other respects unchanged. The thrill in his pulse is much diminished, but is still perceptible; the musical murmur has almost ceased in the cervical vessels; the fremissement still remains in the region of the heart; the humming whirr in the same situation is gone, but a loud bellows sound is distinctly audible; it is loudest about an inch below and to the right side of left nipple, from whence it gradually fades as you ascend to the upper parts of the chest. This sound resembles closely the bruit of mitral regurgitation, but upon feeling the impulse of the heart at the same time as you listen to the rhythm, you are sensible that the soufflet alternates with the impulse, and must therefore be in the second sound. The sound of the heart, synchronous with the impulse, is like a healthy first sound. The ear is sensible of a short interval of silence between the termination of the bruit and the commencement of the sound that is synchronous with the impulse. The motions of the heart are very quiet, and the force of the impulse is not beyond the limits of health."

Remarks.—Dr Evans observed that this was a case of extreme interest: first, on account of the existence in it of a bruit in the second sound below the nipple; and secondly, on account of this bruit having been to a certain extent complicated and disguised by chlorotic murmurs. When he first examined this case he had the assistance of his friend, Dr Aldridge, who remarked, upon feeling the patient's pulse,—"this boy has either chlorosis, or permanent patency of the aortic valves." The next step was to examine the vessels of the neck, where they found no visible pulsation, but heard a loud *bruit de diable*. So far it seemed the case was one of chlorosis. They then placed the stethoscope about the middle of the sternum, and detected a double bruit; this again was calculated to puzzle, because they must all know that a double bruit behind the sternum is usually indicative of aortic regurgitation. However, upon pursuing the investigation they found that this double bruit increased in intensity as they approached the apex of the heart, where it became a continuous murmur. Now this is very different from what occurs in aortic valve disease; and, moreover, there was no proof of hypertrophy of the heart; and the pulse at the wrist and the impulse were nearly synchronous. They therefore decided that

there could be no regurgitation; and the vascular signs could, therefore, be only accounted for on the supposition of chlorosis.

What could be the cause of this chlorosis? The boy was questioned as to his having hemorrhoids, epistaxis, or other varieties of hemorrhage; it appeared that he had spit a little blood on some occasions when over-exercised; but this was at a distant period, and the hemoptysis was very small in quantity, so that this could not be the source of the chlorosis. He was then interrogated as to his habits, when it was discovered that he was in the constant practice of onanism.

Still, there was a great difference between the physical signs in this case and that of G. K. In the latter there was merely audible a humming noise accompanying the rhythm of the heart, although the musical bruit in the neck was just as loud as in P. M'K's case, on the contrary, there was a distinct rumbling bruit accompanied by marked fremissement, alternating with the impulse, and, therefore, following the first sound. This gradually subsided into a *hum*, and then immediately came the first sound, also accompanied by a *hum*. These signs led to the belief, notwithstanding the absence of increased dulness, that there was some organic disease of the heart, which could be better examined when abstracted from the signs produced by the chlorosis.

As there was some evidence of a slight gastritis, Dr Evans thought it better to begin by removing this complication; alkalies largely diluted were therefore exhibited for a couple of days, and the epigastrium was blistered. The boy was then put under the influence of chalybeates, and ordered full diet. The chalybeates were combined with alkalies—a mode of administration which he borrowed from the practice of Dr O'Ferrall, who discovered that in this way iron may be exhibited at an earlier stage after gastric irritation. His strength rapidly returned; the colour came back to his cheeks; the *bruit de diable* ceased in the vessels of the neck, and the chlorosis was removed by a multiplication of the blood corpuscules; the cardiac phenomena were now changed; the humming noise that previously accompanied the first sound was no longer audible; an interval was capable of being detected between the second and first sounds; but the strong fremissement continues up to the present, and the usual sharp defined character of the second sound is replaced by a bellows murmur.

What is the nature of the cardiac disease which persists in this case? Dr Hope supposed that a bruit chiefly audible below the nipple, and replacing the second sound, was indicative of contraction and obstruction of the auriculo-ventricular openings; but Dr O'Ferrall has shown that very great contraction of the mitral valves may exist without any bruit; and, indeed, the commonest valvular disease of the heart is the crescentic contraction of the mitral, described by Mr Adams, in which there is both obstruction and regurgitation, yet whenever a bruit is present in this disease it always accompanies the first sound. Dr Evans therefore does not believe that *obstructive disease of the mitral valve ever produces a bruit.* Dr Graves has described a case of permanent patency of the aortic valves, where the signs exactly simulated those produced by regurgitation through the left auriculo-ventricular opening, but the aortic valves could scarcely be patent without producing hypertrophy of the left ventricle; while in M'K.'s case there is no morbid dulness on percussion in the region of the heart. Again, there is a sign of regurgitation through either openings on the left side of the heart, first pointed out to Dr Evans by Dr Aldridge, namely, an alternation between the pulse at the wrist and the impulse of the heart; this sign is also absent in M'K., both pulse and impulse being in him nearly synchronous. Dr Evans does not, therefore, think that in this case the aortic valves can be inadequate. Dr O'Ferrall has given the history of a case where a bruit in the second sound proceeded from regurgitation through the pulmonary valves. In his case, however, the bruit was most audible at the base of the heart, over the seat of the pulmonary valves. In M'K. it can be most distinctly heard at the apex. Under all the circumstances Dr Evans considered this case to be one of great importance, and although they might not at present be able to explain the cause, it would be well for the students around him to bear

in mind, that a bruit might replace the second sound at the apex of the heart, accompanied by fremissement, without any evidence of enlargement of the organ. Dr Evans thought it as well to remark, that there were in this case none of the ordinary phenomena of cyanosis.—*Dublin Hospital Gazette*, No. 6, May 1, 1845.

On the Treatment of Epilepsy by Digitalis. By D. J. Corrigan, M.D.

Digitalis (foxglove) has been from time immemorial a quack remedy, in the rural districts of Ireland, for epilepsy. Its effects, as administered by the fairy-women (as those professing to cure the disease are called) have been so violent, that the profession has shrunk from its administration, although success had in many instances followed on its exhibition. The following is the formula which is generally used:—Fresh leaves of digitalis, four ounces; beat into a pulp, and pour over it a pint of boiling beer; infuse for eight hours, and strain with expression. Of this give every third day four ounces, with fifteen grains of dried root of polypodium. In another formula, the dose is to be repeated every third hour until vomiting is produced. In 1828, Sir P. Crampton informed me that he had superintended its exhibition in four cases, and that in three of these it had been successful, but that he did not venture beyond the first dose, its effects were so violent. It caused violent and continuous vomiting, like that of sea-sickness, which continued incessantly for twenty-four hours, with irregularity and feebleness of pulse that remained for several weeks after.

In the year 1831, Dr Sharkey, of Cork, in a paper in the *Lancet*, drew the attention of the profession to its good effects in the disease, given according to a similar formula. The effects of a single dose (four ounces) were vomiting, soreness of epigastrium, cold extremities, cramps, and great depression and irregularity of pulse, continuing for several days. I exhibited the remedy myself in the same form, and I am not surprised that the profession should shrink from employing it. The first dose produced the most violent vomiting, followed by cold sweat, feeble and irregular pulse, and these symptoms again by intense gastritis, accompanied with great sinking of the vital powers, and double vision, which continued for several days, sufficient to deter me from ever again venturing on its administration in such a dose. There are some circumstances connected with the effects of this large dose that may be worth noticing here. It was given at ten o'clock A.M.; at twelve o'clock the pulse had fallen thirty beats, viz.—from eighty-six to fifty-six, and there was slight headach with very slight nausea; it was not until eight o'clock P.M., ten hours after the administration of the dose, that the violent symptoms set in. It then occurred to me that as it is a remedy possessing a cumulative property, I might succeed in saturating, as it were, the nervous system with its sedative property, without the risk of inducing those frightful effects which follow on the sudden exhibition of the large dose, and I believe I can now venture to say that this important point in practical medicine can be gained. After many trials of its preparations, I give the preference to the infus. digitalis of the Dublin Pharmacopœia; but I cannot too strongly insist on the necessity of the greatest attention being paid to see that the leaves are well prepared, and of the latest gathering; one of the cases narrated will exemplify the necessity of this caution. The mode of administering is to begin with ℥i of the infusion every night at bed-time, increasing it after a week to ℥iss, and after another week to ℥ij, beyond which it is rarely necessary to go, and continuing it until sickness of stomach and dilated pupils are observed, when the dose is to be diminished by ℥ss or ℥i, until the maximum dose that can be borne without inconvenience is ascertained, at which the administration is to be continued for two or three months. Given in this way its exhibition is attended with no inconvenience, beyond an occasional attack of slight sickness of stomach in the morning, or headach, &c., when the medicine is to be omitted, and a day or two are to be allowed to pass over before resuming its use. With the exception of these symptoms, there is no per-

ceptible effect beyond slow action of the heart; and the patient during its use is able to follow his ordinary avocations.

CASE 1. Mr M. aged 27, consulted me in March 1841; he gave me the following history of his case. In the preceding August, (1840) he suddenly alarmed the members of his family, by exhibiting himself in the middle of the night in a state of violent mania, which continued for some minutes. From that period up to the present time he has had repeated attacks at night, the longest interval having been once a period of five weeks. These attacks are thus described. His brother, who sleeps in the room with him, is roused by hearing him make a noise in his throat, and this is followed by a suffocative convulsion, in which he awakes in the greatest distress and suffering; he then falls into a fit of general convulsions, and on this ceasing he remains delirious and ungovernable for some minutes. His tongue to-day bears the mark of having been bitten in an attack which he had last night. For a long time he only suffered from the attacks at night, but lately he became suddenly unconscious, and fell from the desk in the office of a very important public establishment; and this circumstance has aggravated very much his anxiety about his illness; he knows of no cause whatever to which he can attribute these attacks. His appetite is good, his bowels are regular, but his pulse is full, and he has almost constant noise in the head. He had been taking, previously to my seeing him, nitrate of silver, ammoniuret of copper, strychnine, &c., without any benefit; I directed cupping on the back of the neck, and an issue afterwards in it, and desired him to take half-a-grain of tartarized antimony every night.

He continued this medicine up to the 9th April; he has had only one slight attack, but he says, he feels as if his mind were growing feeble. The tartrate of antimony was discontinued, and he took every night a draught at bed-time, of

Ol. Terebinth, ʒi.
Ol. Valerian, gutt. i.

May 2. There has been no attack since, and his general health is improved. To discontinue all medicine except a lavement when required.

May 12. He called on me to-day with the bad news that the fits have returned; he has had two within the last ten days. The attacks now return as before, and although all the remedies which had previously seemed to benefit him were employed, and various others which it is unnecessary to recount, the disease appeared to be fixing itself more inveterately upon him, the attacks now coming on with great violence every four or five days, and leaving after them heaviness of head, confusion of intellect, and loss of memory. I now felt great anxiety indeed for him, as the loss of his post in a highly important public office seemed inevitable, entailing the destruction of his prospects in life. This was his state in August 1841, when I ordered him the infus. digitalis of the Dublin Pharmacopœia, in the dose of a wine-glassful every night at bed-time, to be increased if he could bear it; he increased the dose to ʒiij every night, and on

August 15, he called on me with greatly improved spirits; he has had but one slight attack within the last thirteen days.

Sept. 22. The attacks are now about one in every ten or eleven days, but very slight, and preceded often for a day by a frequent desire and inability to pass urine. He has had this symptom, however, occasionally before he commenced the use of the digitalis. *The digitalis to be continued in the same dose.*

Oct. 20. The attacks are now so mild that they do not awake him, there being nothing more than a slight convulsive motion of the throat; he only learns of their occurrence from his brother, who occupies a bed in the same room with him. As the digitalis was not producing its specific effects, I ordered him to take ʒiv of the infusion for a dose; this produced no more visible effect than the former dose, when an accidental circumstance led him to obtain a repetition of the infusion from a different supply, which must have been much more carefully preserved, for in a few days he was obliged to discontinue its use, and then on returning to it, to reduce the dose to ʒij as at first. In this dose, he continued its use for about three months; the attacks of epilepsy gradually be-

came milder and milder, and at length ceased altogether; and I have had the gratification of seeing this gentleman very frequently in good health and spirits, a period of nearly four years having now elapsed without a return of an epileptic attack.

Case 2. On Sept. 8, 1841, in consultation with my friend Dr Neligan, I saw Miss ——, aged 27. Without any apparent cause, she was seized while on horseback with stupor, and would have fallen from the saddle had she not been supported. Similar attacks frequently returned for the period of a year, and often without any apparent cause to give rise to them; she was then for some months free from them, but they again returned. In those attacks she was conscious, but her feelings during each attack, although indescribable, were of the most painful kind. Sometimes she would fall, at other times not. After some time the hands and arms became rigid in the attacks, which at last settled down into true epileptic paroxysms, the limbs becoming convulsed, with foaming at the mouth; the first attacks were preceded by warning symptoms of ringing in the ears, &c., but these have ceased, and she is now, without any premonitory signs, suddenly seized while walking, or dressing, with a fit, falls suddenly, and is convulsed. The attacks have also latterly become very frequent:—she had one on the 25th August; another on the 1st, and another on the 2d of this month. Her general health has been greatly improved by a trip to Harrowgate; leucorrhœa, to which she has been subject, had ceased, and in the intervals of the attacks she is in the enjoyment of the most perfect health. We prescribed for her the infusion of *digitalis in doses of* ℥ij, *and ordered shower baths.*

Sept. 17. The draughts produced sickness and occasionally vomiting in the mornings; when these symptoms occurred they were omitted for two nights and then resumed; they do not now cause the morning sickness; the appetite and general health continue good, and the only apparent effect of the draught is a lowering of the pulse, which beats now about fifty. There has been only one slight attack, which occurred the morning after the first of the draughts, and which proceeded no further than loss of power; the draughts to be continued. Dr Neligan informed me in October, that there had been no return of the attacks; the infusion of digitalis was continued in the same dose, and was occasionally followed by sickness in the morning very much resembling sea-sickness, but as before, there was none felt during the night. The draughts were then discontinued, to be again as before resumed. This case was lost sight of, but the effects of the digitalis, for the short period it was given, were most satisfactory; previously to using it, the attacks were very frequent, being often of daily occurrence, while on commencing the remedy they almost immediately ceased, and did not return as long as the case was under our observation.—*Dublin Hospital Gazette*, 15th May 1845.

[We believe that the epileptic cases in which foxglove proves most beneficial are those in which there is much arterial excitement, but as this is *not generally present*, we fear the remedy will *not* be found *generally useful*. In our own experience we have found indigo one of the most satisfactory specifics; but it, like all other remedies tried in this disease, occasionally proves of no avail either as a curative or palliative agent.

The following among other authors have written on the employment of foxglove in epilepsy:—Dr Percival in a paper on Turpentine in Epilepsy, (*Edin. Med. and Surg. Journal*, vol. ix. 1815, p. 271—276); Mr Roger W. Scott, (*Edin. Med. and Surg. Journal*, vol. xxvii. 1827, pp. 19—29); Dr Currie, (*Memoirs of the Medical Society of London*, vol. iv.)]

SURGERY.

ANEURISM OF THE ARTERIA INNOMINATA AND ARCH OF THE AORTA:—LIGATURE OF THE COMMON CAROTID. By GEO. W. CAMPBELL, M.D., Lecturer on Surgery in M'Gill College.

John Smith, aged 48, called upon me on the 22d February last, with a pulsating tumour occupying the lower portion of the right side of the neck, of the origin of which he gave the following account. He stated that about a fortnight previously, when in the act of splitting a piece of firewood, the axe being raised at the full stretch of his arms above his head, he felt something give way in the lower part of his neck, accompanied by a sudden sensation of gasping for breath, which lasted only a few seconds. Upon putting his hand upon the right side of his neck, he discovered a small tumour about the size of a marble immediately above the sterno-clavicular articulation, pulsating strongly, and so moveable, that he could get his fingers round it and push it backwards and forwards under the skin. Not deeming it of any importance, he paid little attention to it, and as it gave him no inconvenience, and was unattended with pain, he was only induced to ask medical advice on account of the great rapidity of its growth.

Smith was a tall powerfully-built man of a sanguineous temperament, had served for twenty-four years in the King's Dragoon Guards, had left the service two years previously upon the return of the regiment to England, and for some years past had been greatly addicted to the intemperate use of ardent spirits. He had complained for several years of occasional severe pain in the right shoulder and side of the neck and head, which he thought was rheumatism, but with the exception of these occasional attacks, was strong and healthy, was never absent from parade, and had no difficulty in performing his military duties while in the service, or in attending to his work, as an ostler in a livery stable, since he left it. He had no palpitation, cough, nor shortness of breath. When I first saw him, the tumour had attained the size of a large egg, was visible both upon the tracheal and external margin of the sterno-cleido-mastoid muscle, measuring 3¼ inches in its longest diameter, which was tranverse to the axis of the neck, and extending vertically above the sternum and clavicle for 2½ inches; it could be followed into the chest, and was felt pulsating as low as the junction of the cartilage of the second rib with the sternum. The tumour was capable of being almost entirely dispersed by compression, the pulsation being equable all over its surface, apparently increasing in proportion to the pressure employed, at each impulse strongly elevating the fingers, and whenever the pressure was removed, instantly regaining its original dimensions. Upon firmly compressing the carotid artery of the right side, against the transverse processes of the cervical vertebræ, the pulsation in the tumour was arrested, and it became soft and flaccid. A similar effect was produced, but not in so marked a degree, by compressing the subclavian over the first rib. The pulse was equally good at the wrist, and in the branches of the carotid on either side. On percussing the chest, the inner portion of the right sub-clavicular region was found to sound dull, and upon the application of the stethoscope, a distinct pulsation was discovered in that situation, gradually losing its intensity as the heart was approached. This pulsation gave a strong impulse, was double, was not attended by any thrill, and by only a very slight bruit de soufflet; it might be compared to 'a heart beating strongly at the top of, and to the right side of the sternum. Neither bruit nor thrill was discoverable in the tumour above the clavicle.

The patient was examined by several of my professional friends: they expressed a pretty unanimous opinion that the case was one of aneurism of the innominata, and that it was one, the history and symptoms of which justified an operation, but they advised in the first instance to try the effect of a restricted

diet and the exhibition of digitalis with avoidance of all exercise. This plan was persevered in very strictly for a fortnight, at the end of which period, although the general force of the circulation was much diminished, and the man had become weak and pale, the tumour still continued to increase slowly in bulk, and its parietes, both external and internal to the sterno-mastoid muscle, became very thin. As the aneurism, if left to itself, would evidently very shortly prove fatal, and as, by its extension both in an upward and outward direction, it was daily adding to the difficulty, and diminishing the prospect of success from an operation upon either of the great arterial trunks, it was resolved to give the patient the chance afforded by the operation upon the distal side of the tumour, so ably advocated by Mr Wardrop. Upon frequent trials, it was found that compression of the carotid had a more marked effect upon the circulation within the aneurism, than compression of the subclavian:—it was therefore selected as the vessel from the ligature of which the greatest benefit might be expected.

Operation.—The operation was performed on the 8th March at eleven o'clock in the forenoon. I was assisted in it by Drs Holmes and M'Culloch, and from fifteen to twenty of my professional friends favoured me with their presence. The patient was placed upon a table in the recumbent posture, with the head and shoulders slightly elevated, the neck extended by raising the chin, and inclining the face towards the opposite side. An incision about three inches long was made through the skin and superficial fascia, along the anterior border of the sterno-mastoid muscle, extending from a little below the angle of the jaw, to the superior boundary of the tumour, which was upon a level with the cricoid cartilage; the platisma and deep fascia were divided to the same extent upon the director, the sterno-mastoid and omo-hyoid, which were now distinctly brought into view, were respectively drawn outwards and inwards by broad retractors, and a little further division of the cellular tissue by a silver fruit knife, and the finger nail, exposed the sheath of the vessels. Owing to the muscularity of the neck, the artery lay at a considerable depth from the surface; the integuments being borne off the sheath of the vessels by the strong contraction of the mastoid muscle, a very large vein was seen crossing the artery, apparently coming from the thyroid body, and passing obliquely outwards and downwards to empty itself into the deep jugular; the vein being drawn upwards, and the sheath being opened, an aneurismal needle, armed with a well-waxed single silk ligature, was passed round the artery; the vagus nerve was seen external to the artery, but the deep jugular vein did not come into view. The artery was raised a little from its sheath upon the ligature, to ascertain the condition of its coats, which were found very sound and healthy; the ligature was then gradually tightened and firmly secured by a common double knot, one end of it being afterwards cut off. Immediately upon tightening the ligature, the aneurismal swelling completely disappeared, and no trace of it could be discovered for several minutes; after a short time, however, it began gradually to return, but it did not nearly regain its original size, measuring only 2 inches in the transverse diameter, and rising little more than an inch above the sternum; the pulsation was by no means so strong, and it was much softer, and more compressible than formerly. The pulse before the operation was 96, during the operation it sank to 88, and became very small, immediately afterwards it again rose to 96: little or no blood was lost. Immediately upon tightening the ligature, the patient complained of severe pain in the side of the head, the pupil of the opposite eye became slightly dilated, he felt for a few moments bewildered and confused, and could with difficulty be induced to remain quiet. The wound in the integuments was brought together by the interrupted suture, a compress and bandage were applied over the aneurism, and the patient was put to bed with his head and shoulders elevated. The liniment. sapon. c. opio was ordered to be applied hot, to the side of the head, where he complained of the pain; the digitalis was to be continued, and the diet was restricted to toast and gruel in small quantities.

3 *o'clock*, P.M. Upon visiting my patient three hours after the operation, I found that the pulse had risen to 120, was rather sharp and full, he was greatly

troubled with a teasing cough, and still complained much of the pain in the right side of the head; venesection was employed to the extent of 14 ounces, small doses of nitras potassæ with tartras antimoniæ were ordered to be administered every hour.

10 *o'clock*, P.M. Pain of head completely removed by bleeding; pulse 116, soft; skin moist; cough not so troublesome; tongue clean; bowels not opened since last evening. Gave 5 grains calomel with 10 grains cathartic extract—also 50 drops of the solution of mur. morphiæ to produce sleep.

March 9, 10 *o'clock* A.M. Passed a quiet night from the morphia, but did not sleep much; no return of pain in the side of the head, bowels not yet opened, but feels as if the medicine will shortly act upon them; pulse 112, soft and compressible; no pulsation to be felt in any of the branches of the carotid; skin cool; complains of a sense of tickling and irritation about the larynx which he says produces cough; voice rather hoarse. To allay the cough, 2 drops of the solution of morphia was added to each dose of the nitre and antimony.

10 *o'clock*, P.M. Feels very comfortable; bowels not yet moved; pulse 120, cough not so troublesome; skin moist. To have a tea-spoonful of tinct. of hyoscyamus immediately, and salts and senna in the morning if the bowels do not previously act.

March 10, 1 *o'clock* P.M. Feels very comfortable; no pain in wound; medicine has acted freely; slept well during the night; pulse 108, soft; same diet and medicines to be continued.

March 11, 1 *o'clock*, P.M. Wound dressed—stitches removed. Primary union had taken place in lower half of incision, upper half discharging slightly and looking healthy. Tumour diminished to the size of a walnut, very compressible, and pulsating by no means strongly. Pulsation still heard distinctly at upper part of sternum, without bruit, and double, as formerly. Pulse 100—passed a good night—cough not so troublesome—tongue clean—says he feels very hungry. The compress was re-applied over the tumour, and the same diet and medicine continued.

March 12, 1 *o'clock*, P.M. Did not sleep well during the night. Pulse 120, full—skin hot—cough more troublesome—bowels freely moved during the morning—complains of slight return of pain to right side of head—venesection to twelve ounces, which immediately relieved all the symptoms—continue the diet and medicines.

March 13, 1 *o'clock*, P.M. Slept very well, all the symptoms favourable—cough gone—pulse 90, soft. Continue the medicine as formerly—to have a little broth.

March 14, 1 *o'clock*, P.M. Wound again dressed, looking healthy, nearly all united excepting a small portion superiorly, which was discharging healthy pus. Tumour in appearance as at last dressing, still soft and compressible. Pulse 90—other symptoms favourable—compress re-applied and same treatment continued.

The satisfactory progress of the case from this period up to the 23d March, more than realized my most sanguine expectation. I was aware that the slightest carelessness might be followed by fatal consequences; I therefore visited my patient, always once, and frequently twice daily, and did not in the least relax the strictness of the treatment, either in diet or medicine. I find the following report in my notes of the case for the 22d March. Wound examined—nearly cicatrized—ligature still firm—tumour quite flat, and can only be discovered by a slight pulsation, which still exists at inferior and internal part of its former situation. Pulse returned to temporal artery on right side—pupil of left eye still slightly dilated—pulsation at upper part of sternum much diminished in impulse—functions all natural. The compress upon the tumour was discontinued, and the digitalis and restricted diet persevered in.

March 23, 2 *o'clock*, P.M. Upon paying my usual visit to my patient, I found that, upon the previous evening, he had imprudently sat by the stove for a considerable time, without any other covering than his night-shirt, it being the first time he had left his bed since the operation was performed; this exposure was followed by a rigor, which ushered in a high fever and intense

headach, from which he had suffered all the previous night. At the time of my visit he was slightly delirious, complained much of headach, with hurried respiration, and a sharp pulse of 140. The heart's action was very tumultuous, and the impulse so strong, that it shook the whole body, and even the bed on which he was reclining. A professional friend, who visited, on this occasion, my patient along with me, agreed with me in advising venesection, which was accordingly performed, and blood was taken to the amount of twelve ounces, with marked relief. A mixture was ordered to be administered every two hours, containing in each dose tinct. hyoscyam., dr. $\frac{1}{2}$, cyanuret. potas. gr. $\frac{1}{3}$, with nitrat. potas. gr. 5.

10 *o'clock*, P.M. Found him much relieved by bleeding and medicines. Pulse 130, soft—respirations 28 in the minute, is much harassed by a return of the cough, which is of a laryngeal character, complains also of an occasional sense of suffocation—voice husky. Gave 3 cathartic pills; other medicines continued.

March 24. Found my patient much improved in appearance—pulse 120, soft and compressible—respirations 20—no wandering of intellect—bowels had been acted upon by the pills—cough not so troublesome, and has lost all feeling of suffocation. Upon examining the chest, the dull sound on percussion was found to extend over a much greater portion of the right sub-clavicular region than formerly, and a pulsating tumour could be felt with the fingers, extending from the cartilage of the third rib to the clavicle. Upon applying the stethoscope, no bruit was discoverable, but impulse very strong and sound double—a loud bronchial rhoncus was heard upon the right side during inspiration, the point at which it was most distinctly heard was posteriorly, internal to the scapula; it was at the time attributed to compression of the right branch of the trachea by the aneurism—no return of tumour in the neck.

On the 25th and 26th he was apparently getting over the bad effects of his late imprudence. On the 26th the report was—Feels to-day much better—pulse 100, soft—skin and tongue moist—respiration natural—cough not troublesome—requested something to eat. The stethoscopic signs were in kind as at last report, though the impulse was not so strong, nor was the bronchial sound so loud.

March 27. I was sent for by my patient at two o'clock in the morning, and found him sitting up in bed, suffering from great dyspnœa—countenance of a livid colour—pulse 150, very small—heart's action exceedingly tumultuous—left pupil largely dilated; two pulsating tumours were felt rising up upon both sides of the sternum, the larger one upon the right side, in the situation of the original aneurism. These tumours were not well defined, as the whole neck was swollen and of a livid colour, from venous engorgement. The distressing sense of suffocation gradually increased, and he expired at five o'clock, P.M. of the same day. He was perfectly sensible to the last, and knew that he was dying from the first seizure.

Post-mortem examination 15 *hours after death.*—The surface of the upper part of the chest, neck, and face presented a livid appearance, from venous engorgement. Upon opening the thorax, a large tumour was discovered, resembling very much, in size and appearance, the heart enclosed in the pericardium, occupying the superior portion of the right side of the chest, and extending towards the left side, half an inch beyond the centre of the first bone of the sternum. The tumour filled up the whole of the anterior and middle mediastinum, above and in front of the root of the right lung, extending from the cartilage of the third rib to the top of the sternum. The tumour was removed from the body along with the heart and great vessels within the thorax; the upper part of the sternum, with the inner half of the clavicle, and the 1st, 2d, and 3d ribs attached to it; the trachea, œsophagus, anterior muscles, great vessels, and nerves of the neck, were also removed, as far up as above the os hyoides, and the whole was subsequently carefully dissected. The left ventricle of the heart was found slightly hypertrophied, the aortic valves were free from disease, the ascending aorta was greatly dilated, and numerous scales of bone were found deposited in and under its lining membrane. The aneurismal swelling

commenced at the root of the arteria innominata, involving the whole of the anterior parietes of that vessel, to within a quarter of an inch of its bifurcation, and the transverse portion of the arch of the aorta, as far as the giving off of the left carotid, the origin of which was slightly dilated. The first bone of the sternum, the sternal ends of the clavicle and first rib, were denuded of periosteum, and formed part of the anterior wall of the aneurismal sac, the first bone of the sternum being deeply hollowed out by the pressure of the contained blood. From the superior part of the large tumour, the remains of two smaller aneurisms were found arising; the posterior one, the larger, extended into the neck, upwards, and towards the right side, for at least a couple of inches above the clavicle; its sac in front was composed of the deep cervical fascia, and external and internal to the mastoid muscle, was exceedingly thin and weak. The sac of the anterior aneurism was capable of containing a small walnut; it arose from the large sac about the centre of the sternum, by a distinct opening immediately in front of that into the posterior aneurism; the sacs of both these aneurisms were found empty and collapsed. The interior of the large aneurism was almost completely filled by a large coagulum, weighing eight ounces and a quarter avoirdupois, very dense in structure, not deep in colour, formed of distinct lamellæ, and in many places slightly adherent to the parietes of the sac. A loose coagulum of blood, very different in appearance and structure from the fibrinous mass occupying the interior of the aneurism, was found in the ascending aorta. The descending aorta was dilated as far as the diaphragm, and contained ossific deposits in its interior. The right carotid was found nearly divided by ulcerative absorption, produced by the ligature, half-an-inch below its division; the vessel was plugged up by a firm coagulum, for upwards of two inches below the ligature, the superior part was also filled up in a similar manner as far as its bifurcation. The superior part of the right lung was found condensed in its substance, from the pressure of the tumour. The left lung was congested throughout, and posteriorly and inferiorly was found in the first stage of pneumonia. The liver was larger and harder than natural; the other abdominal viscera were healthy. The brain was found quite healthy, and the branches of the internal carotids seemed equally large on both sides.—*British American Journal of Medical and Physical Science*, No. 1, April 1845.

Abscess in the Sheaths of the Deltoid and Infra-Spinatus Muscles.

A man, aged 40, of bad constitution, was admitted into the wards of La Charité, for a painful swelling of the left shoulder. M. Gerdy discovered the existence of an abscess, occupying the whole extent of the surface of the deltoid, and extending posteriorly over the inferior and posterior surface of the scapula, exactly in the space comprehended between the spine of that bone, and the oblique line marked by the course of the teres major, running along the inferior edge of the scapula. Between these limits the infra-spinatus lies, its sheath generally communicating with that of the deltoid. The space occupied by this large double fibrous sac is considerable, and includes nearly three fourths of the shoulder, in the form of a large epaulet. It was in this pouch that fluctuation was everywhere felt. M. Gerdy being perfectly aware of the nature of the disease, opened the tumour by a large vertical incision at the posterior and superior part of the arm. The incision was in an exact line with that of the two sheaths, and was about five inches in length. An enormous quantity of serous pus escaped from the scapula and shoulder. On introducing the finger upwards and forwards, it passed over the whole of the inferior fossa of the scapula, or, more correctly, the infra-spinatus muscle; anteriorly and superiorly it passed into the cavity formed by the mass of the deltoid. There was no difficulty in determining, that the pus was confined to this double enclosure. The disease at first appeared serious; but from the treatment employed,—judicious dressings, and methodical pressure,—it appears progressing to a favourable termination. This would probably have been sooner accomplished, had the patient submitted to two counter-openings. M. Gerdy was desirous of making one over the scapula, and the other at the anterior and inferior part

of the arm. This kind of abscess is as rare as remarkable; it is only the second time we have seen it, and we are not aware that it is specially mentioned by any author. In the other case which came under our observation, the pus was confined to the sheath of the infra-spinatus alone, and the diagnosis was at first somewhat doubtful. It is probable that in the acute state, the abscess of which we have been just speaking may prove fatal. Such was perhaps the case of an athletic smith, who died some years ago, under the care of M. Roux, from abscess of the shoulder. At that period no one thought of abscess of the sheaths, consequently the fact passed unnoticed.—*Annales de Thérapeutique*, April 1845.

Rare Case of Hypertrophy of the Lymphatic Glands in the Adult.

A country woman, aged 30, was admitted into the wards of M. Velpeau, Hôpital de la Charité, on account of a number of lymphatic tumours, in every region of the body where these glands are met with, viz. in the axillæ, groins, neck, elbows, legs, and trunk. In all these regions there are masses,—chaplets of hypertrophied glands,—varying in size from an almond to a hen's egg. They roll under the finger, are without pain, or change of colour on their surface. The affection first appeared two years ago, without any appreciable cause. The woman had previously enjoyed excellent health; she is even now robust, and suffers nowhere, except that the tongue is a little white, and the digestive organs occasionally out of order. She says she has lost flesh, but she is still rather stout; the skin has a slightly yellowish tint, but not approaching to icterus; she has perspired copiously through the night for some time past. No one of her family, so far as she knows, has been affected in a similar way, and none of the inhabitants of the country where she resides have any thing similar. Her place of residence is well aired, and, from her occupation, she passed most of her time in the open fields. M. Velpeau retained her in his wards as a subject of study; she was put on the extract of walnut for nearly two months; but no favourable change occurred, the health of the patient seeming rather to decline.

So little being known of the diseases of the lymphatic system, we are anxious to record the above case. What is characterised as scrofula in the child, is a complex disease, and cannot be confounded with the above. In this woman nothing is found but general hypertrophy of the glands; the serous membranes are in a good state, the osseous system exhibits no alteration, and there are no knotty cords in the course of the lymphatic vessels, as is the case in some kinds of erysipelas. In the actual state of science, we can only say—there is general ganglionitis, but it does not follow that it is true scrofula, since there are none of its constitutional symptoms. If this diagnosis be correct, hyposthenic remedies, whose action is on the lymphatic system, would be indicated, calomel and hemlock for example. It has been thought that cancer has its origin in chronic lymphitis. Why then is this woman exempt from cancer?—*Annales de Thérapeutique*, April 1845.

On Bursal Swelling of the Wrist and Palm of the Hand.

Till within these few years only one method of treating these enlarged bursæ was practised, viz. incision, followed or not, as it might happen, by the use of the seton. To this mode of treatment there usually succeeded violent inflammatory reaction, leading frequently to serious exfoliation of the tendons, anchylosis, and purulent sinuses, which occasionally necessitated amputation of the fore-arm; if matters proceeded more favourably, the treatment, at best, was always tedious. Dupuytren, who, as is well known, was the first to describe these synovial sacs, confined himself latterly to the simple use of the seton, passing it from above downwards, slipping it beneath the annular ligament; but the consequences were not less serious. More lately, Mr Syme, the distinguished surgeon of the Royal Infirmary, Edinburgh, proposes to make a large and free incision, not only through the cysts, but also through the annu-

lar ligament. He has (in the MONTHLY JOURNAL for October 1844), related one case treated in this way; but it is evident that this method also is surrounded with danger. In this position of the art, we have now to state a new mode of treatment, for which we are indebted to Parisian surgery.

On the one hand, M. Gerdy has tried sub-cutaneous puncture, preceded and followed by the application of leeches, and methodical pressure; the result has been successful, but we cannot state whether or not there has been relapse, the patient having left the hospital before there was sufficient time to ascertain if the cure were permanent. On the other hand, M. Velpeau has been trying injections with iodine, and has obtained speedy cures, free from all accidents. Others have followed the practice, and have had reason to be satisfied with it. M. Chassaignac informs us that he has cured one case by this method, and he has just operated on another in our presence, in the Hôtel Dieu. The case is that of a man aged 40, who for some years has had a double tumour on the palmar surface of the right hand; it is fluctuating, and without change of colour on the surface. One of these tumours, of the size of an egg, was above the annular ligament, the other, of the size of half an orange, was situate in the palm of the hand. The fingers could not be extended; on pressing alternately on either tumour, that sensation of jarring peculiar to hydatid cysts was not present; but this negative character arose from the circumstance of the two tumours not freely communicating, in consequence of which the displacement and friction of the corpuscles on each other was prevented. The hydatic bodies, however, may be altogether wanting, but this does not in any way change the nature of the disease; besides, they are sometimes present in small quantity. In this case there was no doubt of the true nature of the complaint.

M. Chassaignac operated in the following manner:—After causing the tumour to project, by means of lateral pressure, he plunged a trocar into the palm of the hand; a small quantity of viscid fluid escaped. By means of strong pressure on the two tumours, a prodigious number of hydatic corpuscles escaped through the canula; several of these were larger than the diameter of the instrument, which proved them to be elastic and compressible. Examined by the microscope, these productions appeared to be true hydatids with vesicular bodies, and not merely those hard, simple, albuminous concretions usually found, which would lead us to believe in the existence of two varieties of these tumours, the one truly hydatid, the other only hydatiform. After having completely emptied the tumour, M. Chassaignac washed out the sac twice or thrice with warm water; he then injected a solution composed of one-third tincture of iodine, and two-thirds of water. After allowing it to remain a few minutes, the fluid was completely withdrawn. It was remarked, during the process of these injections, that the sub-annular opening, serving as a communication between the two sacs, was very small, so that the fluid passed from the palmar sac into the superior, only when the former was full; and this appears to explain the obscurity of the fluctuation between the two sacs. We have also to observe, that, according to the testimony of the patient, the disease first appeared in the wrist, and that it was a considerable time before the palm became affected. An inverse course, however, occurs, as is frequently observed. But the cyst in its development, and in extending from the one region to the other, always passes under the annular ligament. If this explanation be correct, it is difficult to explain the excessive smallness of the annular opening, unless we suppose it had become contracted in consequence of inflammation, or by some accidental valve, both of which are rare, for the passage under the ligament is usually perfectly free. The tumours were again filled, a few days after the operation, but in a much less degree.

Two months have now elapsed since the period of puncture, and the tumours are about one-half their original size; the fingers are extended, the patient can move them, and is without suffering; the tumours at present appear stationary. M. Chassaignac is of opinion that the cure will be effected by spontaneous absorption of the fluid, as in hydrocele; and he founds this opinion on a case he lately observed, in which there was a large serous cyst in the left groin; the tumour re-appeared after injection with iodine, but was gradually absorbed;

in its latter stage the tumour felt like a compacted knot, but at length entirely disappeared. In the case now recited, if the tumour does not disappear, recourse will be again had to puncture, when a lasting cure will be obtained, without any kind of danger. There is in this process of M. Velpeau a real step in advance, of great value, and which reduces to a mere trifle a disease hitherto formidable. We may state, before concluding, irrespective of the method itself, that no special importance is to be attached to the tincture of iodine, as it may be replaced, in circumstances of necessity, by various other substitutes. At the last scientific congress in Italy, a case was communicated by Gherini, surgeon to the Great Hospital at Milan, of a large bi-lobular hydatid cyst, situated at the posterior part of the elbow, cured by incision alone, and from which there escaped 52 barley-shaped corpuscles. The sac suppurated, it is true, but the cure was complete, without any unfavourable symptom. (*Annali Univ.* January 1845). The bi-lobular form, in this case, was remarkable, from the absence of the annular ligament, which is sufficient to account for it, at the wrist; it may be also remarked that the barley-shaped concretions are not confined to the latter region. Gherini states that he is certain that neither of the cavities communicated with the articulation. The extraction of the hydatid corpuscles is, of course, essential to the cure of these affections.

In conclusion, we have laid before our readers two new and important modes of treatment of these affections; that of M. Gerdy, and that of M. Velpeau. They may, in case of necessity, be combined.—*Annales de Thérapeutique*, for April 1845.

[In perusing this last sentence, we are tempted humbly, and we trust in good feeling, to give a hint to our Gallic neighbours, touching what is sometimes alleged to be a prevailing weakness,—national vanity. We have here two new and important modes of treatment *en présence*, by MM. Gerdy and Velpeau, for which we are indebted to Parisian surgery!! Honour to whom honour is due assuredly. But is there here adequate occasion for such a flourish of trumpets? We consider the evidence supplied is quite insufficient to establish the efficiency of the method proposed. As it regards M. Gerdy's plan, the statements are,—"We cannot state whether or not there has been any relapse;—there has not been sufficient time to ascertain if the cure be permanent." And as it respects M. Velpeau's,—from all that appears, the success was but very partial. "If the tumour does not disappear, recourse will again be had to puncture, when a lasting cure will be obtained, without any kind of danger"!! We do not affirm that all the particulars of the cases are given in the pages of our respected contemporary. But our able brethren should remember that we can judge only from the evidence afforded; and apparently in these cases the success so hastily claimed, is based upon a most slender, and apparently insufficient foundation. Were this a solitary instance we should say nothing about it. But is it not, on the contrary, an illustrative example? The communication on this subject of our valued contributor Professor Syme is a complete contrast to this. It is classic; and we venture to refer to it as worthy of imitation. These remarks, which are offered, as we trust they will be taken, in good part, are only a comment upon an old authority, which might profitably be followed on both sides of the channel. *Quiconque s'élève, sera abaissé; et quiconque s'abaisse, sera élevé.*]

Clinical Observations on Fracture of the Temporal Bone:—with particular reference to Hemorrhage from the Ear and Paralysis of the Uvula as Diagnostic Signs. By M. Blandin.

Fracture of the temporal bone, and more especially of its petrous portion, has lately been the subject of some interesting clinical observations by M. Blandin. The immediate cause of these was the following case: A man aged 30 fell from a height, and was immediately brought to the Hotel-Dieu. On admission, he was pale, and blood flowed from the left ear and mouth. The sense of hearing of that side was weakened, and there was slight paralysis of the corresponding

side of the face. The uvula also appeared paralysed, but to a much greater degree; so much, indeed, was it drawn to the right side, that it rested on the corresponding edge of the base of the tongue. From these symptoms, M. Blandin gave as his diagnosis,—fracture of the petrous portion of the temporal bone, accompanied with lesion of the intra-cranial portion of the facial nerve. The paralysis of the face and the deafness disappeared in a few days, after repeated bleedings; but the paralysis of the uvula continued. This is now the eighth day since the accident; the patient goes on well; he has been allowed some food; and suffers no inconvenience from the paralysis of the uvula.

The first question to which M. Blandin directed his attention, was the anatomical explanation of the coincidence of paralysis of the face with that of the velum palati,—a coincidence formerly pointed out by the regretted Dr Monteau, and which has been observed since in several analogous cases. We say several cases,—for paralysis of the uvula does not always accompany that of the muscles of the face. In order to understand this, we must trace the nerves of the uvula to their origin. This part receives its nerves from the spheno-palatine ganglion, which, as is well known, sends three filaments to the muscles of the velum palati and uvula. The ganglion itself receives a filament from the intra-cranial portion of the facial nerve, as has been demonstrated by MM. Blandin and Longet. This filament has been long known; but it was erroneously supposed that it was sent from the ganglion to the Vidian nerve. From this interesting observation, then, it follows, that lesion of the intra-cranial trunk of the facial nerve must produce paralysis in the filament which goes to the spheno-palatine ganglion, and afterwards leaves it as the motor nerve of the uvula. The uvula, consequently, is only paralysed when the cause of the paralysis of the face is within the cranium, close by the petrous portion of the temporal bone. In this fact, then, we have a valuable means of diagnosis, for, when there is paralysis of the face alone, without accompanying paralysis of the uvula, we may affirm that the lesion is external, or in the peripheral branches of the nerve. The hardness of hearing is also sufficiently explained when the injury is within the cranium. The diagnosis of M. Blandin was principally founded upon these views; but there was besides hemorrhage from the nose and mouth, which also led him to the same conclusion. These two symptoms M. Blandin regards as unequivocal signs of injury, or fracture of the petrous bone. The blood, according to him, emanates from the interior of the tympanum, where it is extravasated, and escapes anteriorly by the external ear, (which pre-supposes rupture of the membrana tympani,) posteriorly by the Eustachian tube, through which it finds its way to the throat. The membrane of the external passage being only tegumentary, cannot, according to M. Blandin, be so easily torn, or furnish blood so readily, as the mucous lining of the internal ear. These conclusions this surgeon regards as the more certain, as every time he has had an opportunity of verifying his diagnosis by dissection, he has found it correct. Such is the substance of the views emitted by M. Blandin regarding this special question. He then noticed fractures of the cranium generally, and called attention to a phenomenon first noticed by Bruce,—we mean inflammation of the veins of the diploæ, suppuration of which is, according to him, the source of abscess of the liver, so frequently observed after injuries of the head.

We have already several times drawn attention to the relative value of hemorrhage from the ear, throat, or nose, as a diagnostic sign in traumatic lesions of the head, and each time we have decided in an opposite sense to that now related. We recently quoted a paper by Drs Lawrie and King, who have recorded twenty-two cases of cerebral concussion, observed at the Royal Infirmary of Glasgow, in which there was hemorrhage both from the ear and mouth, and yet twenty of these recovered. In one only of the two fatal cases was fracture of the base of the cranium found on dissection. We were led to conclude from the above paper, that the hemorrhage in question was neither a symptom of such gravity as had been generally stated by authors, nor yet a constant symptom of fracture of the petrous portion of the temporal bone, or of any other bone. We have, since the appearance of that paper, related three similar cases. In these the hemorrhage was abundant from one or both ears, nose, and throat.

There was also violent concussion, with alarming cerebral reaction. All these patients, nevertheless, were cured. In one only was there both paralysis of the face and deafness; but the state of the uvula was not examined. It is not indeed proved that the blood did not emanate from a fracture of the petrous bone, as the fracture might have been cured; but if there was fracture, it existed in two of these cases without paralysis of the face, deafness, or lesion of the facial nerve. We acknowledge, however, that, previous to the remarks of M. Blandin, our attention was not seriously directed to the paralysis of the face; and this may be so slight as to escape detection. Such was the case of M. Blandin; but examination of the uvula threw light upon the subject, and henceforth, for obtaining an accurate diagnosis, this examination ought never to be neglected. In one of the cases, however, as already noticed, both the paralysis of the face and the deafness were well marked; but we again state, the uvula was not examined in this case. However this may be, we have only one case, that of Drs Lawrie and King, accompanied with dissection, to oppose to the absolute diagnosis of M. Blandin, and to the presumption that the hemorrhage in question is constantly accompanied with fracture. This one fact does not, it is true, authorise any general conclusion; but if it be correct, we may be permitted to doubt if the symptom in question always arises from fracture. Such also is the opinion of M. Gerdy. From what has been stated, it is evident that this important question can only be decided by an appeal to new facts. In the mean time, the above may be of some assistance in leading to a more just appreciation of the phenomena.

The questions are,—1st, In injuries of the head is hemorrhage from the ear, throat, or nose a constant indication of fracture at the base of the cranium, or of the petrous portion of the temporal bone? 2d, Is this kind of fracture always accompanied with paralysis of the uvula, and of the face, and deafness? 3d, May these latter symptoms be present without fracture?—*Annales de Thérapeutique*, for March 1845.

[We have no hesitation in answering the first of these questions in the negative. Hemorrhage from the ear, like that from the nose, seems frequently to be occasioned by injury of the soft parts alone. In the series of concussion cases, published by Drs Lawrie and King,[1] the occurrence of hemorrhage from the ear is noted in twenty cases, two of which proved fatal; and dissection in both instances proved that no fracture existed, although only one of the cases is narrated in full. In some of the remaining eighteen cases, the fracture may have existed; but they show that bleeding from the ear is not such a formidabe complication as some imagine. Paralysis of the uvula is a symptom which we believe has not been frequently noted, and is one well worthy of attention in such cases.

Abscesses in the liver are by no means common after injuries of the head,—certainly not more so than after injuries of the extremities; and we think there is no evidence to connect them, when they do occur, with inflammation of the venæ Santorini.]

Hemorrhage from the Ear, and Palsy of the Uvula, as Diagnostic Signs in certain cases of Injury of the Head, illustrated by Cases treated in La Charite of Paris.

Three cases illustrative of this subject have very recently presented themselves at La Charité.

One of the patients, a stout young mason, is in the ward of M. Gerdy. He was brought in on the third day after a fall from a scaffolding; when it was stated that he remained insensible for a few minutes after the accident. Several apparently trivial contusions existed on the head and other parts of the body. For three days after the fall, there was abundant hemorrhage from the right ear, and on the evening of the third day, when he was admitted into the hospi-

[1] Monthly Journal, vol. for 1843, p. 673.

tal, the discharge still continued. The disturbance ("*commotion*") had ceased, there was slight headach, a strong pulse, and a hot skin. He left the hospital quite well, after having been there subjected to two or three bleedings, doses of tartar emetic, and antiphlogistic regimen. The discharge from the ear stopped on the fourth day, when, however, it was evident that the membrane of the tympanum was torn, as when he was desired to blow with the mouth and nose closed, the air hissed through the external meatus so strongly as to cause the flame of a candle to flicker. The conclusion drawn was, that the blood had come either from the membrane itself, or from the interior of the tympanum. M. Gerdy would not admit that there was a fracture, as there did not exist palsy of the face, deviation of the uvula, fixed pain, or any symptoms of compression. He argued that there could not be fracture of the petrous portion of the temporal bone, without occasioning an accumulation of blood at the base of the brain; and that such an accumulation could not there exist, without giving rise to compression, and its attendant phenomena.

The *second case* occurred also in the wards of M. Gerdy. The patient was a robust young workman, who fell down a stair when carrying up a heavy load on his back. He struck his right temple on a step, by which he was almost deprived of sensibility. The corresponding ear soon discharged a good deal of blood; and the hearing on the same side became impaired. When admitted to the hospital, four days after the accident, he presented a large sanguineous tumour on the temple; the discharge from the ear had ceased; the deafness continued; the pulse was hard; and the patient complained of a throbbing headach in the side which had been struck. In addition to what has been stated, there were no symptoms of compression—no facial paralysis, and no deviation of the uvula. When the patient expired forcibly, with the mouth and nose closed, no air came through the ear, showing that the membrane of the tympanum was not torn. In this case, then, the blood must have come from the lining membrane of the external ear, and been wholly unconnected with fracture. It may still be asked, whether the membrane of the tympanum was not obliterated, as the accident had occurred four days previous to the admission of the patient? Upon the whole, we are entitled to presume that there was no fracture.

The subject of the *third case* was admitted into the words of M. Velpeau, on account of various injuries. There was discharge of blood from the ear, apparently unconnected with any serious deep-seated injuries.

A consideration of these cases, and of what we said in our March[1] number, leads us *to conclude that in the present state of science, hemorrhage from the ear, in the circumstances just described, does not entitle one to say that there is a fracture, even although that hemorrhage be accompanied by paralysis of the face and uvula.*—*Annales de Thérapeutique* for May 1845.

MIDWIFERY.

On Simple Ulceration of the Os Uteri.

The occurrence of simple ulcers on the os uteri was denied by Boyer, owing, no doubt, to the little use made of the speculum in his time. Nothing, however, is more frequent than the appearance of these ulcers; and it may be said that every woman labouring under leucorrhœa, purulent or lactescent, is affected by this disease, if not with cancer. Five or six varieties of this disease are at present under treatment in the wards of M. Jobert, at the Hôpital St Louis; and these we have carefully studied by means of the speculum. It is so rare in ordinary practice, to have an equal number of patients under the eye at one time, and so inconvenient, moreover, to examine them in a suitable manner, that the present opportunity of doing so is interesting. The disease, as far as regards the ulceration, presents itself under various forms; but they all proceed from the same cause, hypertrophy of the neck. This hypertrophy,

[1] The substance of which paper precedes this abstract.—Vide p. 461.

without doubt, precedes the erosion, and is sometimes accompanied with induration, sometimes with softening. The hypertrophic softening is sometimes considerable; we have seen the neck undulate, and even yield under the simple pressure of a pencil of agaric, like a stewed apple. In this condition the neck, from the absence of nerves in its tissue, presents no morbid sensibility. The ulceration appears, no doubt, consecutively to this state, and is the natural process of chronic inflammation. The ulcers may have their seat on one or other lip, generally the superior, sometimes on both, and very frequently on one or other side; in some cases they cover the whole circle of the os, and in others they have their seat deep in the neck of the uterus, where they are concealed by the swelling of the anterior lip; but they may be discovered there by a means which we shall presently indicate: so much for the seat of the ulcers. As to to their form, they are sometimes superficial,—simple aphthæ,—of the size of a lentil, having their seat in the edge of the neck, and more or less numerous; this is the most simple case; these aphthæ, however, sometimes extend, become confounded together, and constitute a superficial erosion of more or less extent of a mapped form, and more or less irregular: the lesion then becomes much more serious. It is not necessary, however, that it should pass through the aphthous stage to arrive at this state, for it may originate primarily and to a great extent, from the inflammatory process alone. This species of ulceration presents a great resemblance to those large erosions of the superior part of the cornea, in form of a cross, described by Demours, and styled by Velpeau "ulcères à coup d'ongle;" it is, however, proportionally much larger. It may be compared more exactly to the surface of a suppurating blister; it is sometimes covered with granulations, bleeds easily, and is often even infiltrated with blood; thus its aspect is always red; it is not painful to the touch, either with the finger or a pencil. It is probable that these women, in whom there is hemorrhage after sexual intercourse, have some slight ulcerative lesion of this kind. In a third variety, the erosion is no longer a mere superficial excoriation, it is hollow, infundibuliform, semi-spherical, more or less deep, sometimes very deep. Its base is more or less foul; its surface is always of a bright red, and infiltrated with blood. The erosion then very much resembles certain hollow ulcers of the legs in varicose subjects, who have just been walking. This kind of ulcer often causes a notch on one side of the os uteri, near its opening, or on its free edge, but more generally on its superior lip, or towards the left lateral commissure. In some cases it affects the whole circle of the internal surface of the os, and hollows out a progressive cavity from above downwards. These hollow erosions must always be regarded with suspicion, more especially if they make any progress in depth, for their nature is frequently not simple; and if they have been so, they are liable to assume a bad character. It may be said, generally, that the ulcer is simple when its surface is granular. In regard to the third variety, it resembles the two preceding as to form, only it has its seat in the neck. In conclusion, we have thus observed three varieties of simple ulcers on the neck of the uterus; the aphthous, ulcerative abrasions, and hollow ulcers; they are all hemorrhagic, especially the latter, and are more or less granular. Hollow ulcers, not granular, are always to be regarded with suspicion. We have not included syphilitic sores of the neck, primary or secondary; these lesions do not in general exist alone, and they have, moreover, specific characters, which at present we need not mention.

Those affected with ulceration of the neck of the uterus are generally young, having seldom passed their thirtieth year; have usually had a family, or miscarriages, and have been for some time subject to abundant leucorrhœa, and hemorrhages, or at least to fluxes of blood from the uterus other than the catamenial. Their constitution is often lymphatic, but this has not appeared to us predominant. They are frequently dark women, with large black eyes, robust, ardent, in whom the crineous system is much developed, indicating a great degree of vigour in the vitality of the dermic covering. These conditions may perhaps be regarded as predisposing causes of the hypertrophy, and the consequent ulcerations, owing to the congestive state of the skin, the mucous lin-

ings, and the neighbouring organs associated with it; these, however, are mere conjectures.

The patients affected with this disease present two kinds of symptoms. On the one hand, an abundant leucorrhœa, with a lactescent discharge; on the other, symptomatic phenomena peculiar to most of the chronic affections of the uterus; viz. lassitude of the extremities, pain and dragging in the loins, hips, and thighs, want of appetite, and sometimes a painful spasmodic contraction of the sphincter ani. These symptoms are accompanied with general languor, more or less troublesome.

A precise diagnosis can only be obtained by means of an accurate examination with the speculum. The "*toucher*" alone is sufficient; a state of hypertrophy merely can be ascertained by its means, but even then its degree can never be perfectly and clearly defined, however expert the examiner may be. In order to institute a thorough examination with the speculum, the patient must be placed, not on the edge of the bed, as is usually done, but on a table, with the hips very much raised, and the thighs bent backwards, so that the knees almost touch the abdomen. It is then only by means of a strong ray of natural light that the fundus of the vagina can be distinctly seen. In order to examine the whole periphery of the neck, a double-valved speculum ought to be used, which on opening embraces it entirely. A single cylindrical speculum is not so serviceable for the first examination, as its opening does not include the whole hypertrophied mass. At first there is observed on the neck and fundus of the vagina, a quantity of purulent mucus; on wiping it away by means of an agaric pencil, the disease is then visible. The first thing that strikes the eye is hypertrophy of one or other lip, or of the whole of the os, and then the ulcerations with which it is complicated. When there is hypertrophy, with pus in the passage of the neck, ulceration, which is not visible, may be suspected. The following is the method which M. Jobert employs to discover this:—He withdraws the double speculum, and introduces the cylindrical one in one piece, and manœuvres it in such a way as to engage the os tincæ in the centre of its opening; he then inclines the handle of the instrument obliquely to the right or left, or from above downwards, in such a way as to cause the posterior opening of the speculum to slide in the opposite manner on the neck; he thus places one of the lips of the os on the edge of the opening of the speculum, and then pushes the instrument from above downwards, so as to separate the lips, which, from the softness of the tissues, is easily accomplished; a considerable portion of the neck then becomes visible, and the ulcerations are brought into view. These ulcers are generally very small, (like a lentil) but, so far as they extend, are as readily seen as the others. When they are simple, their tendency is to progress from the interior outwards, rather than in the opposite way.

As to the *treatment*, nothing is more simple or certain. The disease is invariably cured in the course of a few months, by the means employed at St Louis. Two lesions have to be considered, the one dependent on the other, viz. ulceration and hypertrophy. If there are merely aphthous ulcerations, slight cauterisation with the acid nitrate of mercury, or even with the nitrate of silver, speedily produces cicatrization; the remaining hypertrophy, if it is not considerable, may be cured by the ordinary means. If it be to a great degree, the actual cautery is used for both lesions from the commencement. The latter treatment is also employed when the hypertrophy of the neck, though not considerable, is obstinate, and the leucorrhœa continues. The actual cautery is used for the other species of ulcers either by reverberation, or, which is more general, by its direct application to the ulcer, so as to produce an eschar more or less deep; it may be repeated in the course of eight or fifteen days. The cure is generally accomplished in the course of two, three, or four months; there is melioration in regard to the pain and leucorrhœa during the first week. It seems probable, that concentrated heat causes such a modification in the diseased tissues, as to dispose to a healing process. We earnestly entreat attention to the above facts: the disease is both frequent and disastrous among all classes, and more especially in large towns.—*Annales de Thérapeutique*, for April 1845.

CHEMISTRY AND MATERIA MEDICA.

On the use of some Artificial Mineral Waters. By Professor Werber of Fribourg.

M. Werber has for years used with advantage some artificial mineral waters, different from any that occur in nature. They are composed in the following manner:

I. *Acidulated Sodaic Water*, (24 ounces).

Carbonate of Soda,	90 grains.
Chloruret of Sodium,	30 „
Carbonic Acid,	23·35 cubic inches.

II. *Acidulated Water of Iodine and Soda*, (24 ounces).

Carbonate of Soda,	23·10 grains.
Sulphate of Soda,	0·84 „
Chloruret of Sodium,	24·42 „
Phosphate of Soda,	1·08 „
Carbonate of Lime,	2·78 „
„ Magnesia,	2·38 „
„ Iron,	0·22 „
Silicum,	0·42 „
Ioduret of Sodium,	1· „
Carbonic Acid,	23·35 cubic inches.

III. *Acidulated Water of Iodine and Iron*, (24 ounces).

Carbonate of Soda,	27·90 grains.
Sulphate of Soda,	0·84 „
Chloruret of Sodium,	32·10 „
Phosphate of Soda,	1·08 „
Carbonate of Lime,	2·78 „
„ Magnesia,	2·38 „
„ Iron,	0·50 „
Ioduret of Soda,	0·10 „
	67·68 „
Carbonic Acid,	23·57 cubic inches.

IV. *Simple Acidulated and Bitter Water of Saidschutz*, (24 ounces).

Sulphate of Magnesia,	62·37 grains.
Nitrate,	5·92 „
Hydrochlorate,	1·22 „
Carbonate,	0·82 „
Sulphate of Potash,	2·40 „
„ Soda,	17·62 „
„ Lime,	1·13 „
Carbonate,	5·10 „
Silicum,	96·67 „
Carbonic Acid,	15 cubic inches.

V. *Compound Acidulated and Bitter Water of Saidschutz*, (24 ounces).

Sulphate of Magnesia,	124·75 grains.
Nitrate,	11·85 „
Hydrochlorate,	2·43 „
Carbonate,	1·63 „
Sulphate of Potash,	4·80 „
„ Soda,	38·23 „
„ Lime,	2·25 „

Carbonate of Lime, . .	10·20 grains.
„ Strontian, . .	0·06 „
„ Iron, . .	0·02 „
„ Manganese . .	0·01 „
Silicum, . . .	0·18 „
Subphosphate of Lime and Alum, .	0·03 „
	133·44 „
Carbonic Acid, . . .	15 cubic inches.

The *acidulated sodaic water* is used in the following affections, in the dose of from twelve to twenty-four ounces every morning.

1. Acidity of the secreting organs, as sourness of stomach, acid concretions in the urinary organs.
2. Scrofulous affections, especially of the mesenteric glands with constipation, of the glands of the neck, and in lymphatic goitre.
3. Gout, when connected with venous plethora, and abdominal cachexy.
4. Mucous affections.
5. Hemorrhoids.
6. Engorgements of the lower bowels, liver, spleen, pancreas, &c.
7. Hypochondriasis and hysteria, especially if they are connected with scrofula, gout, hemorrhoids, or obstructions, &c.

The *acidulated water of iodine and soda* has been found efficacious in

1. Inveterate scrofula.
2. Goitres of large size.
3. Tetters in lymphatic individuals.
4. Leucorrhœa in women of lymphatic habit.
5. Incipient dropsy from torpidity, atony, or obstruction of the abdominal viscera.

The *acidulated water of iodine and iron* has been used with good effects in,

1. Atonic and torpid scrofula.
2. Atonic gout.
3. Mucous diathesis.
4. Atonic hemorrhoids.
5. Chlorosis.
6. Leucorrhœa.
7. Chronic gastric affections.
8. Atonic affections of the urinary organs.

The *acidulated bitter water of Saidschutz, simple as well as compound,* is an excellent remedy in abnormal obstructions, venous congestions, constipation from torpidity, hypochondriasis, hysteria, melancholia, icterus, melanosis, hemorrhoids, &c. If irritation is present, the author prefers the ordinary Saidschutz water; in cases of torpidity, he prefers it charged with carbonic acid. He generally gives it in the dose of a glass, followed by a few glasses of artificial Seltzer water.—*Zeitschrift fur Therapie, und Pharmacodynamic;* as quoted in the *Gazette Médicale,* of 22d March 1845.

On Cochineal as a Specific in Hooping Cough. By Dr Benneuitz of Berlin.

The advantages derived by Wachtle, &c., from the employment of this remedy have been confirmed by M. Benneuitz. Under its use he has found hooping cough diminish in intensity, the paroxysms become less frequent, and its duration considerably abridged: the disease usually terminating in twelve or fourteen days. M. B. prescribes an emetic previous to commencing the use of the cochineal, which he gives in the following manner:—

Cochineal, .	4 grains.
Salt of Tartar, .	8 „
Boiling water, .	1½ ounce.
Simple Syrup, .	1 ounce.

To be taken in forty-eight hours.

We should feel happy if the success obtained by M. B. were confirmed by other practitioners.—*Gazette Médicale*, 8th March 1845.

On the Chemical Composition of Fungi. By Dr F. Schlossberger, and Dr O. Doepping.

In most dietetic writings, the Fungi occupy a pretty high rank among the nutritive articles of food; and on this account, they obtain a prominent part in our materia medica, whether classified under the head of mere articles of diet, or under that of the aphrodisiaca. It is generally supposed, that these effects of the edible fungi are owing to the quantity of nitrogen they contain, and for this reason they are also considered as nearly allied to the animal kingdom. This supposition, however, could not be considered as based upon a scientific foundation, until it was confirmed by actual experiment, although many of the phenomena regarding fungi—particularly their great aptitude to pass into decomposition and putrefaction—rendered it extremely probable. Now that Boussingault has given us, in the determination of the quantity of nitrogen they contain, a much more easily applicable, and a much more certain test, for ascertaining the *nutritive power of our aliments*, than was afforded us by the previous experiments; and also given to us a standard of comparison, *by fixing the amount of nitrogen*, in numerous substances, by direct experiment, it appeared that an attempt to determine the quantity of nitrogen contained in various species of fungi, perennial, as well as some of their representatives whose existence is limited to a few weeks, or even days, would not be destitute of interest. For this purpose, the fungi were first carefully dried at a temperature of 100° C; and after the quantity of inorganic matter had been ascertained, the amount of nitrogen was determined by the method of Varrentrappe and Will, slightly modified.

The following fungi were examined by us:—

	In 100 parts of the fresh fungus are				In 100 parts of the dried (at 212° F.) substance.	
	Water.	Sol. Sub.	Ashes.	Nitrogen.	Ashes.	Nitrogen.
1. Agaricus deliciosus, (L.)	80·9	13·1	0·90	0·61	6·9	4·6
2. Agaricus arvensis, (Schaeff.)	90·6	9·4	1·08	0·77	11·6	8·3
3. Agaricus glutinosus, .	93·7	6·3	0·30	0·29	4·8	4·6
4. Agaricus russula, (Scoff.)	91·2	8·8	0·83	0·37	9·5	4·2
5. Agaricus cantharellus, (L.)	90·6	9·4	1·05	0·30	11·2	3·2
6. Agaricus muscarius, (L.) .	90·5	9·4	0·84	0·59	9·0	6·3
7. Boletus aureus, (Sch.)	94·2	5·6	0·38	0·26	6·8	4·7
8. Lycoperdon echinatum, (L.)	.	.	.	.	5·2	6·1
9. Polypones fomentarius,	.	.	.	.	3·6	4·4
10. Daedalea quercina, . .	.	.	.	.	3·1	3·2

The incineration was in the most of these fungi of very difficult accomplishment, and did not succeed perfectly without the addition of a few drops of concentrated nitric acid. The ashes were rich in phosphates, and contained a considerable quantity of manganese, (a metal frequent in the soil near Geissen).

The watery extract of most of the fungi, when exposed to the atmosphere, soon became decomposed; the fluid, becoming, at the same time, turbid and very offensive. Among the gases which were generated, the sulphureted could be distinctly perceived.

In considering the result of the above investigations, we find that the fungi contain perhaps a larger quantity of water than any other alimentary vegetable, scarcely excepting some juicy fruits, which, however, seldom come under consideration as pure articles of diet. This excessive quantity of water gives an easy explanation of many striking phenomena observable in these curious vegetable bodies, especially of their proverbially rapid growth, as they spring up after rain, in a few hours or days, from the smallest rudiment, to growths the

size of the fist. It also naturally explains the great tendency the fungi have, beyond every other vegetable, to pass into decomposition and putrefaction, as, along with a large quantity of water, coupled with a very simple structure, they contain among their solid ingredients a considerable quantity of protein. The fungi, therefore, are indeed remarkable for the large quantity of nitrogen they contain, and greatly surpass in this respect, setting aside their large proportion of water, most of our vegetable alimentary substances. Those of the above-named fungi, which are poorest in nitrogen, approach in the quantity of that aliment the richest in that respect of our common vegetable aliments; for instance, peas and beans, which contain, in the dried fruit, according to Boussingault, from 3 to 5 per cent. Most of the fungi, dried at 100° C, contain twice or three times as much nitrogen as wheat.

Unfortunately, our materials were insufficient to make detailed analyses of the ashes of some of the fast-growing fungi, although we determined their total quantity. In all the fungi which we examined, we remarked a decided preponderance of phosphates, which appear, therefore, to stand in direct relation with the quantity of the *protein* substance. We may now, therefore, place upon a scientific basis the view which hitherto has rested upon mere probability, viz. that the *fungi possess a considerable alimentary power* in the strictest sense of the term, and that they may powerfully promote the direct formation of blood.

In our experiments we included some poisonous fungi, partly because it may be possible, with little difficulty, to render them available as aliments, either by the mode of cooking, or by a slight addition; and partly because the quantity of nitrogen they contain must give them, when obtained in sufficient quantity, a considerable value as organic manure, and even to enter the lists with guano, which, when dried at 100° C, contains, according to Boussingault, only about six per cent. of nitrogen. However, agricultural experiments must decide this point.

With reference to the proper substratum of the fungi, namely, their fibres, when properly cleaned, Payen and Fromberg agree that they coincide entirely with *cellulose* substance; and hence the *fungin* of Braemos and other chemists has been struck out of the list of vegetable proximate substances. We had abundant opportunity, in the course of our experiments, to corroborate these results, as in the fibres of polyporus, daedalea, &c. It appears remarkable, that scarcely any trace of the phosphates could be discovered in the decayed wood on which the daedalea grew, while in that fungus itself they were present in considerable quantity. Fresenius and Will observed the same fact in the mistletoe, growing on an apple tree.

With regard to the question, whether the fungi contain *amylum*,—we were unable, in any one instance, to produce a blue tint, by simply touching the fungus with tincture of iodine; although, with the aid of the microscope, we detected, in the expressed juice of some—as, for instance, of the cantharellus cibarius—a few grains which were by this means rendered blue. At the same time, however, we saw many grains, similar in size and shape to those of starch, which were converted into an intense yellow colour by the iodine. In a few cases, iodine produced a greenish hue, which was owing perhaps to the mixture of the blue and yellow grains.

In almost all the mushrooms which we examined, we could also detect *manit, fermentable sugar;* and we made the interesting observation, that many of the juicy fungi, (for instance, A. russula, cantharellus, emeticus), when preserved for some days in a bottle with a narrow neck, but not closed, passed *spontaneously into spirituous fermentation.* They emitted, at the same time, a very agreeable odour of musk; and distillation yielded alcohol. Genuine yeast cells were produced, and there was a strong development of carbonic acid. It would therefore appear, that the protein substance of the fungi passes very readily into that state of decomposition, through means of which the sugar which they contain (or the substance which forms sugar, inalin, &c.) is brought into fermentation.— *Œsterlen Jahrbücher der Heilkunde*, January 1845; and *Liebig's Annalen*, October 1844.

FORENSIC MEDICINE.

Poisoning with Arsenic—Trial of James M'Kerlie before the Circuit Court of Justiciary at Glasgow, in April 1845.

James M'Kerlie was charged under the Act, 10 Geo. IV., c. 38, sec. 2, with being guilty of the statutory crime or offence of "wilfully, maliciously, and unlawfully administering to any of his Majesty's subjects, any deadly poison or other noxious or destructive substance or thing, with intent thereby, or by means thereof, to murder or disable such, his Majesty's subject or subjects, or with intent to do some other serious bodily harm to such, his Majesty's subject or subjects, in so far as, on the 24th December last, in the house of George Stewart, grocer and fruit-dealer in Airdrie, he did wilfully, maliciously, and unlawfully administer to said George Stewart, and John Stewart, his son, and Andrew Gold, then in the employment of the said George Stewart, a quantity of arsenic, by mixing up the same with a quantity of broth or soup—then prepraing as food for the said parties, with intent thereby to murder or disable them, or one or more of them—and they having afterwards swallowed a portion of the said broth, mixed as aforesaid, were, in consequence thereof, seriously injured in their health." He pleaded not guilty. The following evidence was led:—

George Stewart—Is a fruit-dealer and grocer in Airdrie; carries on extensive business; knows prisoner, who is also a fruit-dealer in Airdrie. I had known him two years previous, during which time we had dealt in fruit. At one time he lived near me, but did not succeed in business, and moved farther west in the town. He has made remarks on the business carried on. He considered that no man got on in business so well as myself, and that he (panel) was doing nothing. He has said these things several times. Remembers 24th of December. Recollects seeing panel a little past eight in the morning. Panel came to my shop. When he entered the shop many people were in it, and he said, "You are throng here." I said, "Middling." He said this is a good time for selling oranges, as Christmas is approaching. He said he intended to buy oranges, but that was of no use so long as I was in the place. I was going from home that day. I stated, in prisoner's presence that morning, that I was going away to the country. Stated it also in the presence of Gold; and at the same time told Gold, my shopman, to make "kail" for dinner, and this was in prisoner's hearing, at the door of the shop. M'Kerlie went away immediately after that. Saw him again, shortly afterwards, a little after ten, and I saw him pacing backwards and forwards, and looking into our shop as he passed. I was then weighing apples to put into a hand-cart. I went out and asked why he walked up and down in that way. He said he was seeking a milk cart; and I looked to see if he had anything to hold milk, but he had nothing. Accordingly I went away from home, and waited on a variety of customers, delivering goods. Returned home near five o'clock in the afternoon. When I came near the shop I met Gold. He told me my "laddie" was very ill—that he was about dying. Gold immediately vomited as he spoke to me. I asked if he was wrong too. He said "Yes; but I think it is looking at the laddie which has made me ill." I went into the house and found my son lying in bed, the white of his eyes only visible, and dribblings of something like froth, as large as an egg, coming from his mouth. I shook the laddie, but got no answer, and he did not appear to be in life. He seemed quite unable to answer me. Ran into Simpson's for whisky toddy. Returned into house; and, after giving some toddy to him, he vomited. Seemed relieved by the vomiting. Did not speak then, but appeared more lively. When he did speak, he said he felt sickness in his stomach. Observed Gold sitting by the side of the dresser throwing, and he threw more severely after getting the toddy. Both were lively and better after they had vomited. I then put the laddie to bed, and I went and took some kail out of the pot and put them into a bowl. The laddie wakened as I was taking the broth, and said, "Don't take the kail, for it was that made me sick, and I am getting very sick again." I said to Gold there was something strange about the broth. "No," said he, "they are just made in the ordinary way." I stopped taking broth, and gave it to the dog, which

ate the broth. I then went and took the meat out of the pot, and when he slept I ate the meat, as I thought there was no danger, and was then going to the country, when the boy awakened. I then told the laddie I was going away, and would be back in an hour. "No," says he, "don't—if you do you will be found dead. I'm awfu' ill down here (pointing to his stomach), and the kail have done it." When I was on my way to go out, saw the dog behind the counter lying on its back or side, his body heaving and vomiting. I lifted the dog from throwing among the fruit, laid him below the counter, and he then lay quite motionless for a while. I returned to the kitchen, and said, "There is something wrong with the kail." I was alarmed at all this, and I ran to Dr Paton. Saw his wife, who said she would go and get him, and I went up with her and found him. I took badly when I was talking with the doctor. Paton went with me to my own house. I was affected with same symptoms. When the doctor came, he examined my laddie, and said he was dead. He then put his hand on him and said, "No, he is not." Paton prescribed coffee and new milk; we all took a quantity of that during the night. All three were very ill during the night. I felt a burning pain in my stomach—sick, and swelling about stomach. My teeth were all loose, and my son's also. One of the boy's teeth came out. Breathing was much affected, and is so still. Previous to that I never complained of any thing but colds. Had taken nothing but porridge in the morning of the 24th December last. The remainder of the broth were put past in a dresser, and covered up, so that no one could come to it. The broth was removed from the dresser to the table next morning, in presence of Paton, Torrance, and J. Murdoch, and M'Millan. Saw the remainder taken out of the pot and put in a bottle.

John Stewart, son of preceding witness—Is 14 years of age. Remembers coming home about half-past 4 the day before Christmas. Found Gold at home alone. Got for dinner broth out of a pot. Supped it out of a bowl. I ate a bowlful and a half. Ate hurriedly, because I was behind with my work that day. I am a weaver. I took a bite of meat, and was taken ill about ten minutes after I had supped the broth. Was sick; much sickness and pain in stomach, and vomited two or three times. Remember my father coming home; and saw Dr Paton afterwards. When I awoke I saw them at my bedside in the course of the evening. I was off work the New Year week. Breakfasted at home on the 24th. Don't recollect what I got that morning. Got a "piece" between breakfast and dinner.

Andrew Gold—Is in the employment of George Stewart. Knows M'Kerlie. Remembers seeing him in Stewart's shop 24th December, betwixt 8 and 9 morning. When he was there that morning Stewart was telling him about going to the country. Told me what to get to dinner; that was in panel's hearing; and panel went away after that. I made broth in the forenoon—beef, vegetables, and barley. There was nothing extraordinary put into it. A woman came in after that—Margaret Hare. I have seen her in the house before. She sold goods in a basket. She had the basket with her that day. She sat down and had some talk with me. The next person who came in was panel—about 10 or 15 minutes after. Panel asked whether George was home; this was between 1 and 2 o'clock. In the morning Stewart said dinner was to be ready sooner than ordinary. Dinner was ready between 3 and 4. Between 1 and 2 panel said he saw George down the town, and asked him about oranges. This was said in the kitchen, which is in the back of the shop. The broth pot was on the fire in the kitchen. Panel walked about in the kitchen. The woman went away about 10 or 15 minutes after he came in. Panel was not more than half an hour there. I had occasion to be out of the kitchen while he was there. Went out to shop to sell to a customer. It was after the woman Hare was gone that witness had occasion to leave the kitchen. Mrs Hare came back to buy onions. She bought them, and went away. She was not in the kitchen that time. Margaret Hare was left alone in kitchen before M'Kerlie. I was serving a customer when she came. I served the customer and then went to her. After they both went away no one came till John came home. John got his dinner then; it was broth out of the pot. I had no suspicion that any thing was

wrong with the broth. He was the worst. George Stewart came home shortly after, while we were badly. He ate broth and meat. George was taken bad, worse than any. He was exceedingly swelled. He had the same symptoms as the boy and I had. Dog ate of the broth. He was ill. It was the sickness of the dog which alarmed us about the broth. Remember Dr Paton coming. Gave us all coffee and milk during night to encourage vomiting. I remember the broth was "keepit" in a pot. Saw it sealed up in a bottle next morning. Witness was ill for two or three days, and is still suffering from the effects. Does not think he will ever get the better of it.

Cross-examined—I lodge with M'Luckie, Clerk Street. I don't stay in house all night. I was helpit hame. Was put to bed in our own house. Margaret Hare went into back shop. Saw her come from it. She had a spoon and a bowl in her hand. No other person was in the back shop.

Re-examined—She had "supped at the broo." She had this bowl and spoon. I told her it was not broth, as there was no barley in it yet.

Margaret Hare—Is a widow, a dealer in small wares; goes about with a basket; knows Stewart. I have seen him many times. Was in his house the day before Christmas. Found nobody, except Andrew Gold. Went in and had a talk with him. Went into kitchen and sat down on the corner of the table. The prisoner came in shortly afterwards. Gold was serving customers once while I was there. There was a pot on the fire. I do not recollect tasting what was in the pot. Quite sure of this. When I went away left panel in kitchen. Could not say time or hour, but it was after twelve o'clock.

By the Bench—I put nothing into the pot. I swear it positively. Had neither bowl nor spoon. Did not meddle with pot. I was apprehended on suspicion of the charge. I denied my guilt and was liberated.

Dr Paton—I remember George Stewart coming to me on the evening of the 24th. When I went the boy seemed nearly dead. There was a feeble twittering of the pulse. He complained of great and burning pain in the throat. Was not absent from him from the time I went till between two and three in the morning. I administered warm milk and coffee—this was exceedingly successful. I found the old man, Gold, also ill; and George was, after a time, taken ill too. They had all been taking broth, as I understood. I examined the broth in the pot. Tasted the broth. It had an acrid pungent taste, and a powerful effect on the teeth. Concluded that there was arsenic. The pot was covered up. Saw the contents sealed with Murdoch's seal. It was then conveyed to my house, till I was told to convey it to Glasgow. I took it to Glasgow on the 23d January Was ordered to hand it over to Drs Penny and King, and gave it to them for the purpose of being analysed. It was still sealed up. The boy recovered.

Dr Penny—Remembered a sealed bottle delivered by a medical gentleman from Airdrie. He read the following report:—

"ANDERSONIAN UNIVERSITY, GLASGOW, 28th Jan. 1845.

"We, the undersigned, certify, that on Thursday the 23d of January, we received from Dr Paton of Airdrie, and John Thomson, messenger-at arms, at Hamilton, a bottle containing about 30 fluid ounces of broth, with instructions from Thomas Dykes, Esq., Procurator-Fiscal for the Middle Ward of Lanarkshire, to examine the broth for arsenic or other poison. The bottle was duly sealed, and the seals were entire.

"We proceeded, on the 25th January, to make a chemical investigation of the broth, in the laboratory of the Andersonian University, Glasgow. We removed it from the bottle without destroying the seals, and divided it into three equal portions. One portion was heated with muriatic acid, and filtered, and the filtered solution was boiled with several slips of copper ribbon. The copper was speedily covered with a coating, which presented the external characters of metallic arsenic. The coated copper was then separated from the solution, and after being carefully washed and dried, was heated in a glass tube; the peculiar odour of arsenic was strongly perceptible, and a white sublimate was obtained, which presented all the characteristic appearances of the sublimed white oxide of arsenic, or the preparation sold in the shops under the name of

"arsenic," and usually administered as a poison. On boiling water in the tube, the white sublimate dissolved, and on testing the solution with the ammonio-nitrate of silver, with ammonio-sulphate of copper, and with sulphuretted hydrogen gas, we obtained similar results to those that are produced by these tests with a solution of the white oxide of arsenic.

"Another portion of the broth was boiled with acetic acid, and filtered. About two-thirds of the clear, filtered solution being subjected to a stream of sulphuretted hydrogen gas, gave a copious yellow precipitate, which was thoroughly washed and dried. It possessed all the characters of yellow sulphuret of arsenic, and when heated with black flux in a glass tube, it gave a brilliant metallic crust, which possessed the highly characteristic properties of metallic arsenic. On heating this metallic crust in a larger tube, it was converted into a white crystalline sublimate, which dissolved in boiling water, and the solution gave, with the tests above-named, the well-known precipitate produced with a solution of the oxide of arsenic.

"The remainder of the acetic acid solution was then subjected, with every precaution, to the process called Marsh's test, and metallic arsenic was obtained, with all its peculiar properties. Further, by means of Berzelius' modification of Marsh's test, we collected a white sublimate, which was proved, by the most appropriate tests, to be the white oxide of arsenic.

"The purity of the tests, and of the other substances, employed in our experiments, was very scrupulously examined.

"Having carefully considered the foregoing experiments and results, we are of opinion that they plainly indicate the presence of arsenic in the broth.

"All this we attest on soul and conscience.

"FREDERICK PENNY,
"Professor of Chemistry, Andersonian University.
"A. KING, M.D."

Dr King confirmed the correctness of the report.

Catherine Herbert—Resides with her brother, John Herbert, surgeon in Airdrie, and occasionally serves in the shop. Panel came to the shop on the 24th of Dec. last, about nine o'clock in the morning. He wanted to purchase a pennyworth of arsenic, which she sold to him. She asked panel what he was going to do with it, and he said it was to poison rats. The quantity he got was a quarter of an ounce, which she put up in double paper, and wrote upon it the words "Arsenic—Poison." He went away with it. She saw him again on Friday of the same week, when he again came to the shop, and bought a pennyworth of pills. Witness asked him what he did with the poison he had got, and he denied that he had got any. Upon which witness said, "Did you not get a pennyworth of arsenic the other morning?" when he then said, "Oh, I believe I did, and I gave it to the rats."

Cross-examined.—Has often seen panel about the shop, and knows him very well. Does not consider him an evil-intentioned man; and never saw anything but that he spoke sensible enough. Cannot say that he is a simple person. He is in the habit of buying medicines at the shop.

William Kingan Smith—Is a weaver in Airdrie. Came home at about seven o'clock, on the night of the 24th December. Knows panel by sight. Saw him that night standing almost opposite to the house of George Stewart. He was in a watching position—looking this way and that way; and as it was a cold night, it struck witness as singular. Never saw him there before.

Michael Gordon—Is a grocer in Airdrie. Remembers when George Stewart, his son, and Andrew Gold were taken ill. Was sent for twice, and found them very ill. A day or two afterwards (on the 26th), saw the panel in witness's own shop. In conversing about the case of the Stewarts, witness understood panel had been there twice or thrice on the 24th December; he appeared to be vexed for what had happened in the family, repeating at the same time that it was well he (the panel) had not been at Stewart's house the day the occurrence took place. Witness said, "I understand, James, that you were there that day;" when he replied, he wanted to make a purchase of some oranges from George, and merely saw him in the street. At this time witness commenced to

have some suspicion from the two different statements, and he said, "Surely you were there." He then stated he had been there with three other persons. He stated that he was there looking after a milk cart. Witness said to him, "James, were you not there a second time?" His answer was, that he had been there, but still looking after the milkman. Witness asked him if he had been in the kitchen. He said, "he was;" but upon being asked, said he had not been near the fire. Said he was only travelling backwards and forwards, from the shop to the kitchen, when these three people were in.

Mary Porter or Roddie, wife of David Roddie, labourer in Airdrie. Lived in second house from prisoner. Remembers the day when George Stewart and his son were poisoned, of which occurrence she heard on the street on the 25th. She went to panel's house after that. He was lying on the bed. She mentioned in his presence about what she had heard about the Stewarts being poisoned, when he said he was done for too, for he had taken 3d. worth of laudanum. He started up in his bed when he said this. Before this time panel had said there would be a judgment seen upon Stewart. This was some days before the poisoning—it was not a month. Panel complained of Stewart carrying away from him the fruit trade. This was about the time of the fruit season, and "might be a month or maybe mair" after the fruit season.

Panel's Counsel here objected to expressions, indicating malice, being received before the time specified in the libel, or a fortnight before it, when previous malice was not founded on in the indictment. After a reply by the *Advocate-Depute*, stating that this was one of many circumstances, showing that there was a motive, and that it should be taken in connexion with the others, the objection was sustained, and the passages bearing this construction were accordingly struck from the notes of the evidence.

The declarations of the prisoner were then read.—In the first he denied all knowledge of the poisoning of the Stewarts. In the second he stated he had purchased some arsenic, intending to take it himself, but for what reason he cannot tell. He destroyed the arsenic, however, by throwing it into the fire, and took laudanum, intending to sleep away. He was in Stewart's house on the 24th, but put nothing into the pot on the fire, nor did he go near it. He was distressed in his mind when he swallowed the laudanum, and did not know what he was doing. He took the laudanum before he heard of the occurrence in Stewart's house.

The Advocate-Depute addressed the Jury for the Crown, and was followed by Mr Aytoun for the panel, when Lord Mackenzie summed up. The Jury retired for about three minutes, and having returned, gave in a verdict, finding the prisoner GUILTY, by a large majority. He was sentenced to transportation for life.

[The report by Drs Penny and King is a good model on which to form such documents.

The evidence tendered by Dr Paton in this case, shows that *all* the profession are not agreed regarding the taste of arsenic. He says he tasted the broth; it had an acrid, pungent taste, and had a powerful effect on the teeth. There can be no doubt that either his imagination must have deceived him, or the taste he describes must have arisen from the variety of vegetables which were contained in the broth. Taking the latter supposition to be the correct one, his description is perhaps somewhat overcharged. Dr Christison says, "I have repeatedly made the trial, and seen it made at my request by several scientific friends; and after continuing the experiment as long, and extending the poison along the tongue as far back as we thought safe, we all agreed that it had scarcely any taste at all—perhaps towards the close a very faint sweetish taste."[1] It is necessary to state that this witness admitted that his only licence to practise was a German diploma—that he had been summoned by the Faculty of Physicians and Surgeons of Glasgow, but it did not exactly appear whether he had been visited with pains and penalties, or allowed to proceed till the nature of the now pending Medical Bill was ascertained.]

[1] Christison on Poisons, p. 254.

METHOD FOR DETECTION AND QUANTITATIVE DETERMINATION OF ARSENIC IN CASES OF POISONING. By DRS R. FRESENIUS, and VON BABO.

The authors, after detailing the objections to the means at present adopted for detecting arsenic, as that of Reinsch, Marsh, and the various modifications which have been proposed of this latter method, give the process which forms the subject of this communication. Part of the material to be tested is treated with hydrochloric acid, and chlorate of potash added, assisted by heat, and when sufficiently acted upon, filtered, and the solution concentrated; solution of sulphurous acid is next added in excess, and this excess is afterwards expelled by heat. Sulphuretted hydrogen is then passed through the solution to saturation, ammonia added, and the whole lightly covered and kept warm until the odour of the gas has disappeared. The precipitate is collected on a filter, and is next acted upon by fuming nitric acid, added by degrees until the whole is moistened, and is then reduced to dryness in the water-bath. It is next moistened with hydrated sulphuric acid, and heated in a water-bath for two or three hours, and finally to about 302° Fahr. The dried and charred residue thus obtained is treated with from 10 to 20 parts of distilled water, hydrochloric acid added, and again precipitated as sulphuret, collected, ammonia added, and the ammoniacal solution evaporated to dryness, and dried at 212°. The charred residue, and anything that remains undissolved by the ammonia, must be tested for lead, mercury, bismuth, copper, &c. The reduction of the resulting sulphuret of arsenic is then fully described, and the apparatus in which it is to be conducted figured. The process consists in mixing the sulphuret with dry carbonate of soda and cyanide of potassium, and introducing it into the reduction-tube, dry carbonic acid gas being passed over it, while it is gently warmed so as to expel the moisture; the flame of a spirit-lamp is applied to the tube beyond all the materials, for the purpose of decomposing the liberated vapours, and another strong flame is gradually applied to the mixture until all arsenic is expelled. The reduced arsenic forms a film in advance of the first spirit-lamp flame. Should zinc or antimony be present, they will be obtained in their metallic state, by dissolving in water the residue found in the reduction-tube.—*Chemical Gazette*, August 1, 1844.

POISONING BY OIL OF BITTER ALMONDS. By W. SMITH, Esq. Clinton.

The subject of the following case was a young lady, aged eight years and a half, who took what is called by the druggists, "ratifia." This substance consisted of one drachm of the essential oil of bitter almonds to seven drachms of spirit. It contained, therefore, rather more than seven drops of the essential oil to each drachm. It is frequently used for culinary purposes, to flavour custards, &c. Rather more than two teaspoonfuls were gone from the small bottle, probably about a teaspoonful was swallowed.

Arriving almost immediately after the accident, I found another medical man present, and the symptoms of our little patient were as follows:—

In the circulating system.—There was no radial pulse on either side. The extremities seemed almost bloodless; the face, however, was of the usual tint; there was considerable swelling of and undulatory motion in the jugular veins; the carotids beat quickly and fully.

Muscular system.—There was no spasm in either extremity; the limbs were completely lax, and fell lifeless when lifted; the eyelids were closed, and the eyes both drawn to the left side; the jaw was firmly clenched in rigid spasm; the pupil was dilated.

Respiratory system.—There was no stertor in the breathing, which was slow and gentle.

The eye had a brilliant and glassy appearance throughout,—mere physical brilliancy without mental expression. There was complete insensibility.

Treatment.—Cold water had been thrown over the arms by a lady present, who thought the child had fainted. We administered a mustard emetic, and

immediately afterwards, brandy and water, with aromatic spirit of ammonia. The child vomited after the administration of the latter. The vomited matter smelt strongly of hydrocyanic acid. A jar of hot water was applied to the feet, the arms were assiduously chafed, and the aromatic spirit of ammonia rubbed in to the pit of the stomach. The brandy and ammonia were administered at short intervals, and after about twenty minutes' continued exertions we had the pleasure to feel the radial pulse returning,—at first very feeble and quick, but gradually gaining power. The spasm of the jaw, (which we had been obliged to open by introducing the handle of a nail brush,) gradually relaxed, and the little patient shortly afterwards opened her eyes, and was enabled to answer questions. The case went on very favourably, and she has since done well. During the insensibility ammonia was not only administered internally, but the bottle was held to the nostrils, and as the effects of the poison were lessening, the child turned away her head from it, thus showing a returning susceptibility to its odour. She had no recollection of what occurred from the time of her taking the poison.

Remarks.—The undulation of the blood in the jugulars, the beating of the carotids, the rosy tint of the cheeks, as well as the spasm of the muscles of the jaw and eyes, form a singular contrast with the apparent absence of all phenomena of life in the rest of the body, and seem to indicate an accumulation of vitality in the brain. Is the action of the heart paralyzed when prussic acid is taken, in the same way as occurs in a sudden apoplectic seizure, *i. e.*, by a primary action through the circulation on the brain? In other words, is the primary action of prussic acid that of causing congestion of the brain?—*Lancet*, 8th June 1844.

Case of Poisoning by the Cashew Nut. By P. Le B. Stickney, M.D., of Philadelphia.

James B——, a lad about sixteen years of age, was poisoned by rubbing upon the back of his hand the acrid juice of the cashew nut. The effects of the poison were first manifested by an excessive inflammation of the affected part, accompanied with pain and an almost intolerable itching. This was followed by an eruption of small red pimples, which soon suppurated, bearing a close resemblance to the pustular eruption produced by croton oil. In a short time these pustules discharged a small quantity of thin pus, coalesced, and became covered with a thin pellicle, filled with serum, giving to the skin the appearance of having been covered with small blisters. The blistering or desquamation of the cuticle was confined to the part upon which the juice had been applied, excepting the lips, which, being repeatedly rubbed by the hand, presented a similar appearance, whilst the swelling and pustular eruption extended to the other parts of the body. The penis and scrotum were enormously distended by an œdematous swelling, but the eruption was confined entirely to the scrotum. The urine, which was voided in large quantities, was of a dark bottle-green colour, possessed its natural smell, and deposited no sediment. Unfortunately it was not analysed, and we have therefore no means of satisfactorily accounting for this peculiar colour. The general health of the patient was not materially affected. On the first appearance of the swelling, there was some fever and thirst. Saline purgatives, with warm and cold fomentations, and poultices of the slippery elm bark, were used with benefit. A poultice of bread and milk, with the common plantain leaf, appeared to be most serviceable in removing the swelling and itching—perhaps the flax-seed poultice would have answered equally as well. The cashew nut is a product of the Anacardium Occidentale, a small tree growing in the West Indies, and other parts of tropical America. The active property of the poison is found in the black juice contained between the outer and inner shell of the nut, and is exceedingly acrid and corrosive. Mr Worthington, of this city, some time since tried some experiments with the juice of the nut. Having dissolved it in ether, he obtained by evaporation a thick dark brown coloured oil, which contained the poisonous principle. He was deterred from further experiments on account of

the severe effects produced upon him by the poison.—*Philadelphia Medical Examiner*, June 1844.

Poisoning with Mortar or Quicklime.

A boy, three years of age, playing in a garden where builders were at work, tasted some slaked lime, and finding it sweet, he ate a considerable quantity. The parents observed him; and having taken a quantity of lime from his mouth and nose, sent for medical assistance. The child was ordered an emetic of ipecacuanha, and after large doses, vomited up a mass of grey stuff, like mortar. Almond emulsion was then ordered. The night was restless; the child was feverish, drank frequently, refused food; the lips were of chalky whiteness; the mouth showed several blisters; the belly was hot, and painful on pressure; the alvine evacuations were bloody. A few leeches were now applied to the abdomen. The child at last did well.—*Casper's Wochenschrift*, No. 33; as quoted in *London Med. Gazette.*

Borax in Bread.

One of the means employed to give bread made of bad meal a good appearance, is borax. According to Duville, the bakers use about 4 oz. of borax to 100 lbs. of flour. To detect the borax in the bread, a considerable quantity should be extracted with water, the filtered extract clarified by boiling with albumen and strained; to this concentrated sulphuric acid is added while stirring, and it is then placed aside. If borax is present, crystals of boracic acid separate, which are now readily detected by their well-known reactions.—*Journ. de Chim. Méd.*, 1844, p. 145, and *Chemical Gazette*, 15th November 1844.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 335 of April Number.)

SESSION XXIV.

Eighth Meeting.—*Wednesday, 2d April* 1845.—Dr Gairdner, P., in the Chair.

Dr Warden's Prismatic Specula.—Dr Warden exhibited and described the prismatic specula which he found most eligible for the investigation of disease in the several open canals and cavities of the body.

Amputation of the Thigh at the Condyles. By Professor Syme.—The author conceived that from the very high average mortality after amputation at the thigh, there was some error in the principles upon which it was con-

ducted,—and this he conceived to consist in dividing the bone through its shaft,—the opening of the medullary cavity of the bone materially enhancing the dangers of the operation. There was much less inconvenience when the femur was divided through its cancellated texture.—[Mr Syme's paper was published in the May number of the MONTHLY JOURNAL.]

CASE OF SUDDEN DEATH FROM RUPTURE OF SOME OF THE SUPERFICIAL FIBRES OF THE HEART. By DR MACLAGAN.—[This paper appears in full at p. 421 of the present number.]

ABOUT TWENTY-FIVE GRAINS OF ARSENIOUS ACID SWALLOWED BY A BOY OF 4½ YEARS, WITHOUT INDUCING SYMPTOMS OF POISONING. By DR ADAM HUNTER.—A boy 4½ years of age, ate inadvertently two pieces of bread covered with butter and arsenic, which had been laid down for the purpose of destroying mice. The accident was not discovered till 4½ or 4⅔ hours afterwards; and from the entire absence of symptoms of poisoning, Dr Hunter was, on his arrival, inclined to doubt the accuracy of the information which he had received, although conveyed to him in a most circumstantial manner. The stomach was, however, cleared out by an ipecacuan emetic; and a dose of castor oil was subsequently administered. No symptoms came on: and the boy has ever since continued quite well.

At the request of Dr Hunter, the bread and ejected contents of the stomach were analyzed by Dr Thomas Anderson, who found much arsenic in both. From the quantity detected in the buttered bread, it was calculated that the child had taken about twenty-five grains of arsenious acid!

NEW MEMBERS.—Dr NIVEN was admitted an Ordinary, and Mr ALEXANDER MACKAY, Assistant Surgeon, R.N., a Corresponding Member of the Society.

NINTH MEETING.—*Wednesday, 7th May* 1845.—Dr GAIRDNER, P. in the Chair.

CASE OF POISONING WITH HEMLOCK. By J. HUGHES BENNETT, M.D.—On Monday, April 21st, a man named William Gow, was brought into the Infirmary by two policemen; and was found to be dead. On examination, the following appearances were observed:—

Great fluidity of the blood throughout the system. In the cavities of the heart only a few small grumous clots existed. The veins on the surface of the brain were much congested. The lungs, liver, kidneys, and almost every organ were also much congested. The stomach was found to be distended with a pultaceous mass, which consisted of the fragments of green leaves and stalks. The mucous membrane of the stomach was congested, with slight extravasation of blood below the epithelium at its cardiac extremity. Intestines healthy. The body was muscular, and without external marks of violence.

On examining the contents of the stomach attentively, it was ascertained from some fragments of the stalks and leaves which had escaped the action of the teeth, that they were portions of *Conium Maculatum*. On bruising them with a solution of potash, the mousy odour of *conia* was strongly evolved.

On Monday, two of Gow's children gathered what they took to be parsley, and brought a quantity of it home with them. Their father ate it greedily with a piece of bread. Dr Bennett related minutely all that occurred to the individual from the time he took the poison, till he was brought into the Infirmary. He was seen and spoken with by many individuals, and their combined accounts were on the whole consistent, and render the case tolerably perfect.

Shortly after eating the hemlock, want of power was experienced in the lower extremity—he faltered in his joints. After a time he was observed to stagger, as a man intoxicated—he fell on his knees—and perfect paralysis of the inferior extremities was manifested. At this time his intelligence remained perfect,

he spoke readily and sensibly to those about him. He complained of having lost his sight. The paralysis gradually crept upwards. There were ineffectual efforts to vomit—he could not swallow—slight movements of the left leg. These symptoms were present two hours after taking the poison, but his intelligence was still perfect. Asphyxia now gradually came on, and he died three hours and a quarter after eating the hemlock. These symptoms fully confirmed the description given by Dr Christison, of the effects of hemlock and its alkaloid conia, as observed by him in the lower animals. Some cases had been related, in which delirium was said to have been present; and others, where death was occasioned, were marked by stupor and coma, as when opium has been taken. Nothing of this kind was observed in Gow; but, on the contrary, gradual paralysis, creeping from below upwards, referable to some change produced on the spinal cord, of a nature exactly opposite to that produced by strychnia. Dr Bennett pointed out how these facts perfectly agreed with the account of Plato and Nicander, of the effects produced by the Κωνειον, or state poison of the Athenians. A difference of opinion existed among botanists, as to whether the modern *Conium Maculatum* was the Κωνειον of the Athenians. From the effects produced in the case described, he was disposed to believe in their identity.

Dr Christison observed, that he was inclined to adopt this conclusion of Dr Bennett; and he felt the more pleasure in stating this, because he had formerly expressed a different opinion. The only positive characters of the Athenian state poison, as given by Dioscorides, were a "hollow root, and not deep." Now the root of our hemlock is not hollow, and it is very deep. In all the recorded cases of poisoning by this substance in modern times, the symptoms observed in man were very different from those described by the ancients, and were opposed to the effects he had himself witnessed in animals. A well observed case of poisoning by hemlock, therefore, was a great desideratum. This had been furnished by Dr Bennett, and tended to clear up the difficulties hitherto connected with the subject.

CASE OF SUPPURATION OF THE BLOOD, INDEPENDENT OF INFLAMMATION. By J. HUGHES BENNETT, M.D.—The statements of various authors, that pus existed in the blood, independent of any local inflammation, have hitherto been very vague; because no measures were taken to ascertain whether the purulent-looking matter was really pus. The purulent collection found in the heart and blood-vessels by Jardin and Andral, have been ascribed by Gulliver to the mechanical softening of fibrin. Dr Bennett considered the following case valuable, as it would serve to demonstrate the existence of true pus, formed universally within the vascular system, independent of local inflammation.

CASE. John Monteith, aged 28, was admitted into the Royal Infirmary on Feb. 17, 1845, under Dr Christison. The leading features in his complaint were the existence of a tumour in the left hypochondrium, which had latterly given him pain. This tumour was ascertained to be owing to enlarged spleen. There was œdema of the lower extremities, but his general health, otherwise, was good. On March 15, he was attacked with febrile symptoms; pulse 110, he was pale, and had slight diarrhœa. March 14.—Fever continues; but there is no prostration. On the 15th he died suddenly.

On examination, four days after death, the blood throughout the body was found to be much changed in the right cavities of the heart, pulmonary artery, and also in the large veins of the trunk; it was firmly coagulated, and formed a mould of their size and form internally. The clot was separated into a red or inferior, and a yellow or superior portion. The latter, when squeezed out of the veins, as was sometimes accidentally done when they were divided, resembled thick creamy pus. On the surface of the brain, the veins and longitudinal sinuses appeared as if partly covered with pus, and partly with red coagulum. The vessels themselves throughout the body were perfectly healthy. The clot was nowhere adherent, but, on the contrary, readily slipped out of the vessel when an accidental puncture was made in it. The liver and spleen were enormously enlarged owing to simple hypertrophy. The former weighed 10lb. 12oz.—the latter 7lb. 12oz.

On examining the blood microscopically, the yellow coagulum was found to be composed of coagulated fibrin in filaments, intermixed with numerous pus corpuscles, which could be readily squeezed out from it when pressed between glasses. When it was unusually soft, the corpuscles were more numerous, and the fibrin was broken down into molecules and granules intermixed with broken pieces of the filaments. The corpuscles varied in size from the $\frac{1}{90}$ to $\frac{1}{120}$ of a millimetre in diameter. They were round, had the cell wall granular, and presented all the appearance of pus globules. That they really were such, was proved by the action of water and acetic acid, the former of which caused them to swell and lose their granular appearance, whilst the latter dissolved the cell wall, and caused a distinct nucleus like that in the pus globules to appear. On stripping off a portion of the pia mater, and examining the capillary vessels of that membrane, they were found crowded with the same corpuscles. This fact was confirmed by Dr Allen Thomson, to whom a portion of the brain was sent.

Case of Sudden Death in which on Examination a Portion of the Fibres of the Heart were found to be Ruptured, and Blood Extravasated among the Ruptured Fibres. By Dr Andrews.—The subject was a gentleman of about 60 years of age, of middle stature, somewhat corpulent, of a florid complexion, with blue eyes and light hair, active in his business habits, and of a social turn in private. During the last fifteen years he had only been three times confined to the house by sickness; and on none of these occasions was there any appearance of a cardiac affection. For some months previous to his death my impression was, that he was suffering from emphysema of the lungs, because whenever I chanced to be in his company, I observed, that on making any exertion, his breathing became hurried, accompanied by a loud wheezing sound; he, however, neither complained of pain or palpitation. Three days before his death he received notice to have some very extensive reports prepared for a Public Board; and such was the labour in preparing them, that it required all his assiduity, assisted by three clerks, from nine A.M. of one morning to four A.M. of the next morning, for three continuous days, to complete the necessary returns. On the morning after these returns were prepared, he rose at six o'clock, apparently quite well, took an early breakfast, and started from Glasgow at half-past eight by the railway train, arrived in Edinburgh, and from thence walked to George Street. On reaching the chambers of the Board, he went into one of the private parlours and wrote some memoranda, after which he proceeded to the Clerk's office. On opening the door, he commenced making an observation upon the weather; but before he could conclude, he made a stagger, fell forward, lighting upon the upper and left side of his face, and never spoke or appeared to breathe again. In the course of the afternoon, accompanied by Mr Innes, surgeon in the H. E. I. C.'s service, I went to the chambers, and saw the body. There did not appear to have been any spasmodic or convulsive movements of the muscles of the face or extremities, but the countenance appeared unusually pallid and ghastly, so much so, that Mr Innes, who had been perfectly acquainted with the deceased, at first declared that it was not he.

Forty-eight hours after death an autopsy was made in Glasgow, by Dr Easton, in presence of Dr Gibson, Mr Innes, and myself. The following appearances were observed: There was considerable lividity of the head and neck. The face had lost the ghastly appearance which it presented on the afternoon of his decease. There was a small abrasion on the upper part of the left cheek, and an oozing of sero-sanguinolent fluid from the nostrils. The parietes of the thorax and abdomen were found loaded with fat; there was no effusion of blood into the thoracic cavity, nor were there any adhesions between the pulmonary and costal pluræ. The blood in the vessels was more fluid than usual. The lungs appeared healthy. On opening the pericardial sac, it was found free of fluid. The vessels of the heart were secured by ligatures, and that organ, on being removed, was found enlarged to nearly three times its ordinary volume; it felt quite soft and flabby, was loaded with fat, and a patch of lymph rather larger

than a sixpence was observed on the external surface of the right ventricle. The softening of the heart, in the right auricle and right ventricle, and also in the upper two-thirds of the left ventricle, was such, that without great care, it was difficult to avoid lacerating it with the fingers. The right ventricle, on being opened, was found empty, but much dilated and its walls attenuated. The right auricle was also much dilated and attenuated, and near the tuberculum Loweri the muscular fibres were found ruptured in three places, from above downwards, to the extent of about three-fourths of an inch, with extravasated blood among the ruptured fibres, effusion of blood into the pericardial sac being only prevented by the serous covering of the heart remaining unruptured. The left auricle appeared healthy in substance. The left ventricle was much softened, and dilated, and attenuated in its upper two-thirds. Near the base of one of the segments of the tricuspid valve, and also in one of those of the mitral valve, at a corresponding place, a very small cartilaginous production was met with. The chordæ tendineæ were also slightly thickened; otherwise the valves were healthy. The semi-lunar valves were healthy, as also the coronary vessels. All the abdominal viscera were healthy. On attempting to detach the dura mater from the skull, the attachments were found to be excessively strong, so much so, that the united efforts of three individuals, assisted by a pretty powerful iron levator, were scarcely able to accomplish this. In other respects, the contents of the cranium were healthy. It cannot, I think, be doubted, that the extravasation in the right auricle just preceded death, otherwise it must have risen to such an extent as to distend the pericardium visibly, or rather, to rupture it and fill its cavity with blood; but whether an extravasation so moderate as this was could be the sole cause of death, may be made a subject of question. It must be admitted, that softening of the heart proceeding to a great extent, by rendering it incapable of obeying its ordinary stimulus, is a sufficient cause of death. In this case, the previous exhaustion may have greatly aided the effect of the extravasation, or may have rendered the softening adequate to cause death.

SULPHATE OF BEBEERINE IN INTERMITTENT HEADACH.—*The President* stated that he had recently been very successful in treating a case of intermittent headach with the sulphate of bebeerine. The subject was a young and recently married lady. There were some reasons to suspect that she might be pregnant. The fits of pain were of daily recurrence, and came on nearly at the same time. The pain when at its greatest height was excruciating. The paroxysm was succeeded by an interval of total exemption from pain. He proposed the quinine; but found that his patient had the greatest objection to it, on account of the disagreeable sensations in her head which she had experienced from its use on a previous occasion. He was unwilling to employ arsenic, on account of the suspicions of pregnancy, and he therefore ordered pills containing three grains of sulphate of bebeerine in each. Of these she took three, sometimes four, each day, in the intervals between the paroxysms, with the effect of immediately diminishing the pain, and of putting an end to the disease in about three or four days.

CONGENITAL HYDROCEPHALUS.—*Dr Omond* detailed a case of congenital hydrocephalus, where the child's existence had been protracted to three years and six months,—gradual distention of the bones of the cranium taking place all the time. A cast of the head and shoulders, taken after death, was exhibited, measuring 31½ inches in circumference, passing round the frontal and occipital bones. In this child the digestive functions were in operation; there was imperfect hearing, with scarcely any other development of sensation or motion.

MEDICAL REFORM.

The Medical Bill is undergoing so many important changes, that we refrain from printing it, till it becomes an Act of the Legislature, an event which will probably take place before the close of the present Session. The Faculty of Physicians and Surgeons of Glasgow have, by influential deputations, speeches, and pamphlets, loudly and indignantly remonstrated against any infringement of their ancient privileges; as another effect of the publication of the bill, the University of St Andrews has this year been unusually prolific of Doctors; and the Senatus has, with much consideration, announced a second graduation for the 1st of July.

If Sir James Graham succeeds in carrying his measure, in spite of the present jealousy and jar of conflicting corporations, he will disappoint and injure some, but we trust and believe that he will, upon the whole, greatly benefit the public, as well as the majority of the medical community.

BOOKS RECEIVED.

N.B. Exchange Journals are not publicly acknowledged, as the constant repetition of their names would occupy too much space.

(Continued from page 335 of the April Number.)

55. Essays on Surgical Pathology and Practice. By Alexander Watson, M.D., F.R.C.S. Ed., Consulting Surgeon to the Royal Infirmary of Edinburgh, &c. &c. Part II. On Injuries and Diseases of Arteries. 4to. *Plates.* Pp. 70. Edinburgh: 1845.

56. De Tenotomia Talipedibus applicata Commentatis, quam scripsit, et ad Summos in Arte Medica Honores rite assequendos die xxii Octobris h. et l. s. publice defendet Chr. Weis, Licent. Med. 12mo. Pp. 93. Haniæ: 1844.

57. The Anatomy of Sleep, or the Art of Procuring Sound and Refreshing Slumber at Will. By Edward Binus, M.D., &c. Second Edition with Annotations and Additions by the Right Hon. the Earl of Stanhope. 12mo. Pp. 505. London: 1845.

58. Observations on the Growth and Irregularities of Children's Teeth, followed by remarks and advice on the Teeth in general, to which is added a Short Essay on Artificial Teeth. By W. H. Mortimer, late Surgeon-Dentist to the British Embassy at Paris. (*Second Edition, revised.*) *Plates.* 12mo. Pp. 129. London: 1845.

59. A Collection of Cases of Apoplexy, with an Explanatory Introduction. By Edward Copeman, Surgeon. 8vo. Pp. 205. London: 1845.

60. The General Nature and Treatment of Tumours. By George Macilwain, F.R.C.S. Eng., &c. 8vo. Pp. 219. London: 1845.

61. The Diagnosis, Prevention, and Treatment of Diseases of the Heart, and of Aneurism: with Observations on Rheumatism. By J. G. Furnival, M.D., &c. 8vo. Pp. 216. London: 1845.

62. A Physiological Essay on the Thymus Gland. By John Simeon, F.R.S., Fellow of the Royal College of Surgeons, Demonstrator of Anatomy in King's College, London; and Assistant Surgeon to the King's College Hospital. 4to. *Plates.* Pp. 100. London: 1845.

63. Practical Treatise on the Special Diseases of the Skin, enriched with Numerous Notes collected from the best Authors, and in the Cliniques of the Hôpital St Louis. By C. M. Gibert, Physician to the Hopital St Louis, &c. Second Edition. Translated by Edgar Sheppard, Member of the Royal College of Surgeons of England. 12mo. Pp. 362. London: 1845.

64. Practical Remarks on some Exhausting Diseases, particularly those incident to Women. By Sir James Eyre, M.D., Physician to the St George's and St James' Dispensary. 12mo. Pp. 75. London: 1845.

65. Practical Observations on the Diseases most Fatal to Children, with reference to the propriety of treating them as proceeding from Irritation, and not from Inflammation. By P. Hood, General Practitioner in Medicine and Surgery. 12mo. Pp. 232. London: 1845.

66. System of Surgery. By J. M. Chelius, Doctor in Medicine and Surgery, Director of the Chirurgical and Ophthalmic Clinic in the University of Heidelberg. Translated from the German, and accompanied with Additional Notes and Observations. By John F. South, Surgeon to St Thomas' Hospital. 8vo. Part I, p. 1–112; and Part II, p. 113–208. London: 1845.

67. An Explanation of the Real Process of "Spontaneous Evolution" of the Fœtus. By John C. Douglas, M.D. *Third Edition.* 8vo. Pp. 69. Dublin: 1844.

68. Third Annual Report of the Edinburgh Medical Missionary Society. 8vo. Pp. 30. Edinburgh: 1845.

69. London Medical Directory, 1845: —containing the name, address, qualification, official appointments, honorary distinctions, and literary productions of every Physician, Surgeon, and General Practitioner resident in London. 12mo. Pp. 180. London: 1845.

70. On Diseases of the Jaws, with a brief Outline of their Surgical Anatomy, and a description of the Operations for their Extirpation and Amputation, with Cases and Illustrations. By Richard O'Shaughnessy, Fellow of the Royal College of Surgeons of England, Demonstrator and Lecturer on Surgical Anatomy in the Medical College of Bengal, and Superintendent of the Gurrunhattah Dispensary. 8vo. Pp. 100. Calcutta: 1844.

71. Physiological Anatomy and Physiology of Man. By Robert Bentley Todd, M.D., F.R.S., Professor of Physiology in King's College, London; and William Bowman, F.R.S., Assistant Surgeon to King's College Hospital, and Demonstrator of Anatomy in King's College, London. *Part the Second.* Pp. 201—448. London: 1845.

72. Remarks on Medical Reform, and on Sir James Graham's Medical Bill. By Lucius, a late Office-bearer in a Royal College of Physicians. 8vo. Pp. 28. London: 1845.

73. An Address to the Middle and Working Classes on the Causes and Prevention of the Excessive Sickness and Mortality prevalent in Large Towns. By William Strange, M.D., M.R.C.S. Edin. 8vo. Pp. 68. London: 1845.

What is the Insanity in Law which Extinguishes Responsibility?

In our number for February, p. 141—157, under the above title, we reported at length the trial of James Gibson for fire-raising. Drs Christison, Poole, Cormack, Simson, Ferguson, Mackie, and Laing, (all of whom had had good opportunities of judging of the panel's mental state,) declared him insane. Dr Malcolm of Perth, said he was not insane. The learned Judge who presided told the Jury that he was not insane; the Jury found him "Guilty as libelled," and in respect to their verdict he was sentenced to transportation for 14 years.

When in the hulks, previous to his contemplated transportation, it was ascertained that he really was insane; and by the orders of her Majesty's Secretary of State for the Home Department, he has been lodged in Bethlehem Hospital, in place of being sent to the penal settlement.

TO CORRESPONDENTS.

Communications have been received from Professor Syme and Mr Grigor of Nairn.

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JOHN ROSE CORMACK, M.D. EDIN., F.R.S.E.

PHYSICIAN TO THE ROYAL INFIRMARY OF EDINBURGH, AND LECTURER ON FORENSIC MEDICINE.

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Surgical Cases and Observations. By* JAMES SYME, ESQ., *Professor of Clinical Surgery, and Surgeon to the Queen.*

NO. XXVI.—EXCISION OF THE OS UTERI, AND REMOVAL OF POLYPUS OF THE UTERUS.

CASE 1. On the 8th of March, Mrs H., aged thirty-seven, recommended by Dr Combe of Leith, was admitted into the hospital on account of a growth from the os uteri. She had been married for twenty years, but never had any family. About twelve months before the time of admission, she noticed occasional hemorrhage from the womb, accompanied with pain and weakness of the back and loins, lassitude, headach, and giddiness. These symptoms, together with nausea and vomiting in the morning, continued to increase; and six months later, were attended by a leucorrhœal discharge. On examination, the os uteri was found to be occupied by a large soft greyish-coloured growth, which bled when touched. It grew out in the form of a fungus, leaving a part of the cervix unchanged; and when pressure was made at this point the finger did not encounter any resistance that implied induration or enlargement of the uterus.

On the 10th, having obtained a good view of the excrescence by means of a speculum, I plunged the hooked forceps deeply into its substance, and by steady traction endeavoured to bring it into view. Finding that the rigidity of the parts prevented this from being accomplished without the use of unwarrantable force, I committed the forceps to an assistant, that he might keep the ground which had been gained, and then passing the fore and middle fin-

gers of my left hand over the growth, so as to embrace its neck between them, by successive strokes of strong curved scissors, effected the excision, with perfect smoothness and entire removal of the morbid part. The slight bleeding that followed speedily ceased, after the introduction of some dry lint into the vagina, so as to distend it moderately. The tumour was about the size of the half of a small orange, and presented all the characters of the "Cauliflower Excrescence" of the os uteri. The patient suffered nothing from the operation; and was dismissed free from complaint on the 21st.

CASE 2. Sarah Lothian, aged forty-four, from Westruther, was admitted on the 21st of March, on account of what she called a falling down of her womb. She had suffered from this complaint since last harvest, not constantly, but on occasion of any exertion, the protrusion being attended with excessive pain and occasional bleeding. The tumour, when examined, was obviously not the uterus, but a polypous growth. It was the size of a large egg, and originated by a narrow neck from within the anterior lip of the os tincæ.

On the 23d, I pulled the polypus down, so as to bring its attachment within view, and transfixed it close to the base with a needle and double ligature, the threads of which were tied so as to include one half in each. I then cut away the tumour, leaving merely enough of it to secure the ligature. The patient suffered nothing, either at the time or afterwards, and was dismissed on the 8th of April.

CASE 3. On the 1st of April, Dr Pagan asked me to see a widow lady about 50 years of age, the mother of several children, who had for more than six years suffered greatly from hemorrhage and other distressing symptoms, connected with a tumour of the uterus. It appeared, that during five years of this period, she had been under the care of a physician-accoucheur, who recognised the existence of a tumour, but deeming it irremediable, was satisfied with using astringent injections and other means of palliation. At length she applied to Dr Pagan, who, on examination, found the vagina filled with a soft, unorganised, incomprehensible substance, which suggested various suspicions of organic derangement, until he satisfied himself that it was merely a deposit from the infusion of oak-bark and solution of alum, which had been long employed in compliance with the instructions of the patient's former attendant. The cavity having been unloaded of this uncouth accumulation, the tumour became accessible, and seemed to admit of removal. I was requested to examine it with this view. It was very large, of a round form, firm consistence, and smooth, though somewhat irregular surface. When traced anteriorly, it was felt to be attached a little within the os uteri—the lip of which was expanded into a sort of collar, embracing the neck of the tumour. Posteriorly, the finger could not reach its root. Having arrived at the

conclusion, that the tumour was a polypus admitting of removal, we proceeded to the operation on the following day.

In the first instance, I attempted by means of the hooked forceps to draw the tumour into view, but finding that this was prevented by the orifice of the vagina refusing egress to so large a mass, I gently introduced my hand so as to dilate the passage, and then grasping the growth, while the forceps still maintained their hold, easily effected the protrusion that was desired. The neck of the swelling, which was fully an inch and a half thick, having been next transfixed from side to side, close to its root by a needle with fixed handle, conveying a very strong double ligature, the strings were tied with all the force in my power to exert, after which the tumour was cut away without any appearance of bleeding. Its size fully equalled that of a child's head at the sixth month. Not the slightest uneasiness followed. On the ninth day I made an examination, and finding that each of the ligatures contained a portion of substance which had resisted the constriction, I divided these remains of the neck by curved scissors, guided over my fore and middle fingers. Dr Pagan tells me that he has since examined the state of parts, and found every thing natural—the os uteri having contracted to the natural size, and resumed its proper place—while the patient, entirely relieved from her complaint, has daily regained strength.

Excision of the os uteri,—an operation which originated with Osiander, and was improved by Dupuytren,—experienced a cold reception in this country, on account of the incredible statements connected with reported cases of its performance. Cancer of the uterus was said to be an extremely common disease,—while it was well known to be happily a rare one; and removal of the part affected was represented as permanently affording relief, with hardly any exception,—while the experience of attempts to extirpate malignant textures in other regions of the body, led to the expectation of a very different result. When, therefore, certain surgeons of Paris published scores of cases, in which they alleged cancer to have been cured by excision of the os uteri, it was not unnaturally concluded, that their relations must, in some respect, be seriously inaccurate, and that further information was requisite before a sound judgment could be formed upon the subject.

It now appears, that cancer of the uterus is not more common than had been supposed,—that removal of the diseased part is, if possible, more hopeless than in similar affections of any other organ,—and that operations undertaken with this professed object, through ignorance or cupidity, have proved no less useless or disastrous than was to be anticipated. But it has also been ascertained that the os uteri, more frequently than might have been suspected from the number of cases previously recorded, is liable to various morbid growths, especially that described by Dr

Clarke, under the title of "Cauliflower Excrescence," which though productive of distressing or even fatal effects, are not of a malignant nature, since they exist in constitutions not otherwise unsound, and admit of complete removal by local means. So long as their treatment was limited to the employment of caustics and the ligature, no permanent benefit resulted, and it seemed as if the distinction which accurate observation had drawn between them, and the cancerous degenerations, did not lead to any substantial advantage in practice. "Respecting the treatment of this disease," says Dr Clarke, "I can offer, at present, little satisfactory information. The disease being described, and distinguished from others, is something gained. All stimulating substances, either in diet or medicine, seem to aggravate it, by increasing the discharge, and no astringents, inwardly given, which I have tried, appear to lessen it."[1]

A great step in advance has been made through establishment of the important fact,—for which we are chiefly indebted to the surgeons of France,—that excision of the os uteri, executed either by knives or scissors, is an operation perfectly safe and effectual when employed for the removal of growths not possessing a malignant disposition. The discrimination of such cases has consequently acquired no small increase of value, though comparatively little attention has been devoted to it in this country, where the practice has long prevailed of confiding the treatment of uterine derangements to accoucheurs. If these gentlemen directed their attention to the principles and practice of surgery in general, there might be some propriety in such an arrangement, but as by education and profession, they are usually physicians, and in their practice abstain from treating surgical ailments or performing surgical operations, except when the uterus or its appendages are affected,—it does seem surprising that in a region where the difficulties of diagnosis are so great, and the execution of operative manipulation is beset with so many obstacles, they should venture upon the management of purely surgical details. The frequency of pelvic abscess, which has lately attracted so much attention, may perhaps in some measure be accounted for by the liberties that, in defiance of decency, danger, and common sense, persons devoid of surgical principles or practice, at present presume to take with an organ, which demands for its treatment the utmost degree of delicacy, caution, and experience.

In performing the operation, it is always desirable and in general easily practicable, to draw the tumour fairly into view, so that the excision may be effected without taking away either more or less than what is requisite, and without injuring the neighbouring parts. The most convenient instrument for this purpose is that which Dupuytren employed—the hooked forceps of Muzeux, who invented it for facilitating the removal of enlarged tonsils—or "*vul-*

[1] Transactions of a Society, &c., vol. iii. p. 333, 1812.

sellum," as it has been improperly named by some writers, the old "*volsella*" being parent of the instruments which act upon the principle of dissecting forceps. By means of the double hooked extremities of this instrument deeply inserted into the morbid growth towards its base, where the texture is of firmest consistence, the tumour may usually be induced by steady traction of moderate force, to descend and present itself to view, when a bistoury or curved scissors may be used without any difficulty or danger. The assistance of a speculum should be taken to insert the forceps, and if it seems necessary in order to obtain complete command over the excrescence additional instruments of the same kind are to be fixed into different parts of its substance. If the tumour cannot be made to protrude without resorting to an unsafe degree of violence, it may at all events be brought down in this way, so as to be within reach of the fingers, which will then form a safe guide for the scissors, as in the case just related. The hemorrhage is seldom more than very trivial, and when at all considerable, may be suppressed by filling the vagina with lint. In a case which happened fourteen years ago, and was, I believe, the first of the kind subjected to operation in Edinburgh, I visited the patient about an hour after cutting off the excrescence, and to my no small alarm, found the blood dropping from her bed upon the floor. As there had been frequent and profuse hemorrhage from the disease, I considered it necessary to use the most efficient means for preventing any further flow, and therefore pulled the bleeding surface into view, transfixed its base with a needle, conveying a double ligature, and tied both the threads firmly. Recovery was accomplished without any untoward symptom.

In removing Polypus of the Uterus, evulsion, excision, and ligature have been employed, and each of these modes of operation may be rendered the most eligible by peculiar circumstances of particular cases. But, in general, the combination of tying and cutting which was practised in the cases above related, certainly seems to be the best plan of proceeding. It has the recommendation of facility, efficiency, and safety. It accurately determines the limit of destruction, prevents the possibility of hemorrhage, and relieves the patient from the fetor, and other unpleasant consequences, which attend the slow separation effected by ligature. Finally, it has the testimony of experience in its favour.

NO. XXVII.—POLYPUS OF THE RECTUM.

Sir A. Cooper states, in his *Surgical Lectures*, that, "in the course of his life," he met with only ten cases of Polypus of the Rectum. Some time ago I met with five cases in the course of a single fortnight,—two of them in adults, and three in children,—and I have seen a sufficient number of other instances of the disease, to satisfy me that it is not by any means so rare as has generally been supposed. It presents itself in three different forms,

of which one usually occurs in childhood, and does not appear much beyond puberty. A gentleman now established in practice, not far from Edinburgh, when attending my lectures,—then I suppose about 18 or 19 years of age,—applied to me for the removal of a polypus, such as is met with in early life, but, with this exception, I never met with it beyond the 9th or 10th year. It is extremely soft and vascular, of a florid red colour, and assumes the form either of a worm from two to four inches in length, or of a strawberry with a connecting foot-stalk two or three inches long. This tumour seldom protrudes except when the bowels are evacuated, and then admits of ready replacement, though not without occasional hemorrhage, which may be of considerable amount. The vascularity of this growth, and its attachment above the sphincter, made me averse from removing it by excision; and Sir A. Cooper has mentioned the alarm that was on one occasion excited in his practice by doing so. I have always employed the ligature; and though the soft texture readily gives way when the thread is drawn, bleeding has never occurred in a single instance, or any other symptom in the least degree disagreeable resulted from this mode of removal: I am therefore induced to regard it as the best that can be employed.

The disease appears in adults in two very distinct forms. In one of these, the growth is soft, vascular, prone to bleed, lobulated or shreddy, and malignant-looking, so as on the whole to resemble very much the cauliflower excrescence of the os uteri, but possesses a peduncle or foot-stalk of firm texture, capable of sound cicatrization after being divided. The profuse, frequent, and protracted bleeding which proceeds from this sort of growth, renders its removal an object of great consequence; and this may be effected very easily, with perfect safety, by transfixing the radical cord of connection with a double ligature, tying the threads so as to include a half of it in each, and then cutting it across a little below the constricted part. In a patient of Mr Craig of Ratho, (who detected the disease from the great hemorrhage it occasioned,) I could not accomplish protrusion of the tumour, but guided a ligature on my finger, and tied it on the neck within the rectum. It is more satisfactory to force or draw the swelling beyond the sphincter, so that the sound and morbid parts may be distinguished with certainty, and this can usually be done with great facility, although the growth has attained a large size. In a hospital case recommended by Mr Anderson of Castle-Douglas, I brought into view and removed a tumour not less than an orange, which had a most malignant aspect, and had nearly exhausted the patient by hemorrhage.

In the other form which polypus of the rectum assumes in adults, the tumour is of a firmer consistence, smoother surface, and more regularly spherical or oval form, so as to resemble the growth which in general constitutes *polypus uteri*. The symptoms result-

ing from this simple swelling are rather annoying than seriously alarming; and the patient, therefore, is apt to delay requiring assistance for a long while. In the case of an old lady, whom I saw with Mr Hilson of Jedburgh, the tumour was about the size of a cherry, with a long stalk, and we were assured had protruded every time the bowels moved for twenty years. In another case, a gentleman whom I saw with Dr Johnston of Cumnock, the tumour was nearly as large as an egg, had a cuticular covering, and appeared to have existed for a period equally long. I have always removed these growths in the way that has been already described, and never met with the slightest consequence of a disagreeable kind.

ARTICLE II.—*Case of Hermaphroditism. By* JOHN GRIGOR, ESQ., *Surgeon, Nairn.*

ABOUT four years ago, I was requested to visit a pauper woman, said to be affected with rupture. Upon examining her, I found that she had a left inguinal hernia of immense size, contained in a bag occupying the situation of the scrotum, in that class of old male cases, where the parts have not been supported. When proceeding to reduce the rupture by means of the taxis, I felt, to my surprise, a penis-like organ, (clitoris) becoming erect. I was not permitted to make any examination after reducing the protruded intestine; which I greatly regretted, as, from the circumstance stated, the presence of an extensive beard, a rough voice, and masculine deportment, I felt assured that the case was one of very peculiar formation of the sexual organs.

The woman died on the 4th April 1845, aged 50. After some difficulty, I obtained leave to make a limited examination of the dead body; which I did on the 6th. Time and opportunity were not afforded me of making so careful an inspection as I could have wished.

An immense inguinal hernia, enclosed in a scrotal-like bag, nearly covered the upper third of the left thigh; and on the contents being returned into the abdomen, it remained large, and like what a scrotum would have been in similar circumstances. I believe it, however, to have been the left labium major, though I certainly could distinguish little or no trace of a right one. There was a right inguinal hernia; but it had not descended below the external ring. The pubes was well covered with hair. The penis-like organ, though tightly bound down by the frœnum, measured an inch and a half: its gland was imperforate, and the prepuce could not be drawn over the gland; the corona, gland, frœnum, and prepuce, were all very distinct. A little below the penis-like organ, there was a quill-sized foramen. No trace of a vagina was seen; and in

addition to what has been described, a long-looking perineum, with some relaxed integuments, formed the external genitals. A probe introduced into the foramen passed downwards for about an inch and a half: this passage was laid open by cutting through skin and a few muscular fibres. The urethra proper and vagina were in this way made visible: they were situated nearer the anus than was normal, and thus obliterated the perineum. The vagina was capable of great dilatation; was about three inches in length; and terminated in a *cul de sac*. The uterus was a mere rudimentary organ, barely capable of admitting a crow-quill: it contained a small quantity of mucus. I could distinguish neither ovaries nor Fallopian tubes; but observed very large round ligaments. The other contents of the abdomen, so far as I saw, presented nothing worthy of remark. The mammary glands were not to be seen; and the nipples were diminutive. The thyroid cartilage was prominent. The pelvis was small. The outline of the bones was prominent. The muscles were well developed.

This pauper was not seen by any medical man in her last illness; but I am inclined to think, that she suffered before death from symptoms of strangulated hernia. I have ascertained that she was never known to have had vicarious menstruation, or amorous desires. When I first saw the external genitals and bodily configuration, I believed this person to have been as much male as female; and although the preponderance of female organs may entitle *her*, in popular language, to be called a woman, yet, in strict scientific phrase, this *lusus naturæ* must be termed *neuter*, because the essential organs of both sexes—the testicles and ovaries—were wanting.

In jurisprudence this person would be regarded as a female; for Coke thus lays down the common law, "Every heir is either a male or a female, or an hermaphrodite; that is, both male and female. And an hermaphrodite shall be heir, either as a male or female, according to that kind of sex which does prevail." (*Coke, Littleton* 8, a.) I apprehend that at birth, and indeed during the whole of her life, it would have been difficult to have determined which sex truly preponderated; and this case is certainly one of those which would—during the life of the subject—be apt to puzzle the investigations of the medical jurist.

NAIRN, May 1, 1845.

ARTICLE III.—*Case of Congenital Opacity of the Cornea. By* PHILIP W. MACLAGAN, M.D., *Staff Assistant Surgeon.*

MRS K., wife of a private soldier in the Royal Canadian Rifle regiment, was delivered on the 7th October 1844 of a healthy female child. This was her fourth. The three others, all girls,

bore evident marks of a dropsical constitution, but at the same time were healthy, good-looking children. As the woman belonged to a detachment some miles from my own residence, I was not with her during her labour; but next day, on my visit, my attention was called by one of the soldier's wives to the infant, which she said was *born blind.*

The state of the eyes at this time, *i.e.* about fourteen hours after its birth, was as follows:—On neither was there the slightest trace of vascularity or purulent discharge; the left cornea was completely opaque; the right was in the same condition, on its inferior two-thirds, but the upper third was clear, the opacity terminating by a tolerably defined edge. At first, I thought that I could perceive this edge to change its position, as the child's head was inclined to one side or the other, which led me to suppose the opacity resided in the aqueous humour; but this I found to be a mistake. Never having seen such a case, and not being able to hear of one, I was led to form an unfavourable prognosis; but in this I was agreeably disappointed; for in a few weeks the edge of the opacity on the right cornea began to thin off, to become less defined, and at length to recede, so that a part of the pupil could be seen on looking straight at the eye, while at first it could only be observed by looking from above. It was long before any change could be perceived on the left eye; but about the beginning of January, *i.e.* three months after birth, it too began to improve—the opacity at the upper part of the cornea becoming more diluted-looking, and by degrees disappearing. At this time, it was curious to observe the infant instinctively depressing the eyeball, when any bright object was held before it, so as to permit its image to fall through the upper portions of the cornea.

When I was removed from that post, a few days ago, the improvement was gradually progressing. There is now only a small portion of the right cornea opaque, and the upper half of the left is tolerably clear, so that the child directs the eyes forwards, and not as formerly, downwards; and I have great hopes that the opacity may disappear entirely, or at least so far as to leave vision totally unimpeded. She was vaccinated on February 12th, and soon after attacked by a very mild variolous epidemic, at that time prevalent in the neighbourhood. After this she had superficial ulceration behind the ears, which I rather encouraged than otherwise; but it did not seem to have any influence on the clearing of the eyes. No treatment of any kind was employed.

Since I came to Kingston, I have had an opportunity of seeing *Braithwaite's Retrospect*, in which I find several remarks on this curious subject; but as the affection does not appear to be very common, I have thought that a relation of another case might be interesting. One thing, I think, may be drawn from all the cases

recorded, viz., that the opacity has a great tendency to cure itself, if left alone.

ST CATHERINE'S, UPPER CANADA,
March 1845.

PART SECOND.

REVIEWS.

Psychopathia Sexualis. Auctore HENRICO KAAN, *Medico Ruthenico et Doctore Medicinæ Vindobonnensi, &c.* 8vo.; pp. 124. Lipsiae: 1844.
(*Mental Sexual Disease. By* HENRY KAAN, M.D., &c.)

THIS work, notwithstanding the extraneous matter which it contains, is, upon the whole, creditable to the author; and this can be said of few of the many books, pamphlets, and papers which have been printed on the revolting subjects of which it treats.

It consists of two Parts. The First Part contains much that is quite irrelevant to therapeutics, though they are professedly the great aim of the author's investigations. The first twenty-eight pages are occupied with a description of the sexual system in plants, animals, and the human species; and the next fourteen are devoted to a description of puberty and its attendant phenomena, mental and physical. After this follow observations on the sexual instinct and its perversions. The remarks upon the latter are as curious as they are unsuitable for translation. We quote them, therefore, in the original Latin.

"Nisus sexualis (*Geschlechtstrieb*) ut ad quantitatem mutationes numerosas offert, ita et ad qualitatem ab norma aberrat, et diversae rationes exstant nisui sexuali satisfaciendi et coitum supplendi. Species harum aberrationum sunt sat numerosae, ast vulgatissimae sunt: onania sive masturbatio; puerorum amor (παιδερασστια); amor lesbicus; violatio cadaverum; concubitus cum animalibus; expletio libidinis cum statuis.

"Onania sive masturbatio est impletio nisus sexualis ope manus; in animalibus obviam venit, ut in elephanti mare, qui comprimit penem inter crura postica et evacuationem spermatis sollicitat; M. Geoffroy observavit (Ann. mus. tom. vii., p. 227) pteropum (de Brisson) lambere penem ob hanc rationem; simiae magnopere huic vitio deditae sunt, inprimis illae species, quae manibus, mammis et pene libero gaudent (Virey, p. 41.)

"Onania jam occurrit in vetere testamento (II. Mosis, c. 38, v. 6, 7, 8, 9), et ejus vestigia in tota historia deteguntur; cum cultu humano civilique celeriorem progressum celebravit; tamen etiam inter populos feros obviam venit, inprimis Americae.[1]

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[1] Lopez de Gamora, Hist., liv. ii., ch. i., et liv. iii., ch. xiii. Steller Kamtch.: p. 287. Garcillaso de Vega, Hist. des incas, liv. ii. Lamotraie, t. ii., ch. iii. Charevoix, Nouv. Fr., liv. ii., p. 4. Dumont: Louisiana; apud Graecos et Romanos, Phillippus Camerarius Horae subsec. cent. ii., cap. xlvi.

"Pæderastia est ratio nisum sexualem adimplendi cum pueris immaturis. Signa[1] sunt rubor, dolor ardens ad anum, vestigia sanguinis effusi, tenesmus difficultas incidendi, condylomata, haemorrhoides, inflammatio ani et intestini recti, ruptura perinaei, fistula, prolapsus intestini recti, atonia ejus et vesicae urinariae. Codex civilis omnium nationum hoc vitium summopere punit aut carcere aut exilio imo et morte (apud Anglos.)

"Amor lesbicus est aberratio, quae constat in expletione nisus sexualis, vel inter viros vel inter feminas, ope tribandum et frictionum.

"Orpheus secundum Ovidium[2] fuit auctor hujus vitii abominabilis:

> "Ille etiam Thracum populis fuit auctor, amorem
> In teneros transferre mares citraque juventam
> Aetatis breve ver et primos carpere flores.

Cuique notum est, quam antiqua haec aberratio sit in Oriente; etiam inter Muhamedis sectatores polygamos feminae in gynæceo sunt tribades; et Turcae puniunt hoc vitium. Etium inter populos feros occurrit inter Cactas in America septentrionali.[3]

"Violatio cadaverum etiam occurrit.[4] Signa sunt: membra cadaveris positionem mutatam offerentia, genua flexa, crura detracta, genitalia externa ampliata, in virginibus hymen recens ruptus, in vagina et extra illam vestigia seminis.

"Coitus cum animalibus certe difficilius detegi potest. Inprimis suspicio oritur, si animal circa genitalia laesum invenitur.[5] Incolae Persiae coxalgia adfecti, huic vitio, tanquam remedio, se dedere dicuntur.[6] Feminae Kamtschadales animalia mascula superstitione ductae ad coitum excitant.[7] Leviticus mentionem facit de coitu cum bestiis, et eum feminis Judæorum interdicit.[8]

"Incolae insulae Madagascar vivunt modo ferarum, pueri et puellae libidines exercent in presentia parentum, qui rident. Pueri et cum animalibus libidinantur, imo et servi cum vaccis impuniti stuprum faciunt. Inveniuntur ibidem Tsecats, homines impotentes et effeminati, qui quaerunt pueros et libidini indulgent, ast feminas aversantur, nec coitum cum iis amant.[9] Apud veteres, nonnulla exempla coitus cum animalibus occurrunt: feminæ Mendesiæ cum bove sacro,[10] qui actus sæpe palam omnibus celebrabatur;[11] ævo Trajani et Adriani magnus numerus feminarum pulchrarum se voluptatibus permisit cum animali sacro, ast bos ut plurimum præferebat femellam propriam, abhorrens ipse detestabilem coitum. Piæ et religiosæ, secundum Diodorum Siculum, se offerebant nudæ et in statu ardoris venerei:

> . . . . . "Mendetis
> Quo salax caprae maritus
> Humanam audet inire feminam.

"Homines cum capris quoque sibi voluptatem permiserunt; inde cultus Panis et ejus sacerdotibus tales honores decernebantur.—Superstitio hæc reli-

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[1] Bernt, Medicina Legalis, p. 100.
[2] Metamorph., lib. x. 85.
[3] Bossu, Nouv. Voyages aux Indes Occid., t. ii., p. 100.
[4] Haller prelectiones, sect. 42, p. 301, narrat puellam, quae mortua esse videbatur, fecundatum esse.
[5] J. Warton, Note on Theocrite, idyll i., v. 88, p. 19. Siculi caprarii cum capris et sarracenus sanctus (p. 274) cum asellis. Baumgarten, Peregrin. in Ægypt. Arab., p. 73.
[6] Pallas, neue nordische Beiträge, part ii., p. 38.
[7] Stellar, Beschreibung von Kamtschatka, p. 289.
[8] Cap. xviii., xix., xx.
[9] Flacourt, Madagascar, p. 86.
[10] Hancarville, Recherches sur l'origine des arts de la Gréce.
[11] Herodot., lib. ii., c. xlvi.

giosa exstitit ante Mosem,[1] et feminæ Judæorum saltabant nudae ante bovem Adonai,[2] et occurrit adhuc in secundo seculo post Christum. In operibus sculptis veterum Græcorum[3] tales scenæ observantur.

"Omnes hæ species aberrationum nisus sexualis tristissimæ contemptum et aversationem merentur, quibus obrutae sunt; tam leges naturæ quam codex civilis et precepta ecclesiæ eas condemnant et in asceclis puniunt. Etiam in populis feris varia remedia tentantur ad onaniam præcavendam: annuli in labiis vaginæ,[4] tintinnabula in membro virili;[5] in insula Zubut annuli ex auro facti, in Turcia ex ferro (Nicolai.) Labillardière narrat, in insulis meridionalibus quaedam mullusca esse, quae ibidem suspendantur, ut bullæ ovum."[6]

Part Second is practical. The causes which lead to Psychopathia Sexualis in its various forms are enumerated. They are just those with which physicians are well acquainted. The truth of the following statement regarding the sources of this vice cannot be too strongly impressed upon practitioners and parents.

"Efficacissima et maxime vulgaris causa: seductio directa ope nutricum,[7] capillorum concinnatorum, ancillarum,[8] condiscipulorum,[9] imo in dedecus generis humani et educatorum vel praeceptorum."

Lectures on Animal Heat. *By* THOMAS SPENCER, M.D., &c., 12mo, pp. 114. Geneva, N.Y. 1845.

THE author does not pretend to give any new facts; but his deductions from those which have been already ascertained, possess some pretensions both to novelty and ingenuity.

Chapter II. is upon the "Chemico-vital changes produced by Respiration upon the Blood and Respired Air." It terminates with the following summary:—

"1. Carbonic acid gas is formed in the lungs by the oxydation of Carbon from the darkening *pigment* of venous blood.

Elements of Atmospheric Air. { N, O, O } become in the lungs. → C̈

Carbon of the blood. { C } →

2. The oxydation of the carbon imparts to water free heat, which uniting with it as latent heat, forms vapour.

3. The carbon of the *colouring figment* which is cast off from the lungs must be *elemental* atoms of carbon, as a *compound* of this element.

4. The pigment is probably a compound of the elements of water and carbon; and if so, the changes in the lungs may be thus illustrated:

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[1] Leviticus, c. xvii., v. 7.

[2] Berhard Hierozoic., p. 643 et 842.

[3] Collectio ex Herculano et Pompeiis seriem obscœnitatum offert.

[4] Piérre de Saintré, Voyage en Guin. i.

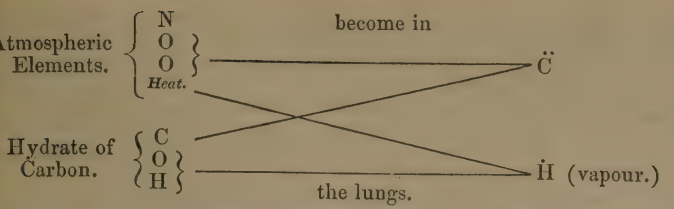
[5] Odoardo Barbari.

[6] Pigafetta Congo ii.

[7] Mos nefandus est complurium nutricum, infantes ope titillationis genitalium sopire.

[8] Casum recordor, ubi ancilla libidinosa puero 12 annorum extremitates ope fasciarum ligavit, denique membrum tandieu titillavit, donec seminis emissio subsequeretur.

[9] Alius casus mihi praesto est, ubi puer cum suis condiscipulis communicavit, hanc esse meliorem urinam emittendi.



Chapter III. treats of the "Change of Colour and Chemical properties, produced upon the blood by the systemic capillaries.

Chapter IV. is upon the Function of Calorification. The lungs are shown not to be the sole generators of animal heat, and the immediate cause of it is thus described :—"As fluid and gaseous substances, like water and carbonic acid, on becoming solid must part with latent heat, it hence follows, that wherever the capillaries form these atoms of hydrate of carbon, latent heat must be set free, and thus furnish an incessant supply of this life-imparting agent.

The author thinks that an explanation of the *Spontaneous Combustion* of the body in habitual drunkards may be founded on his physiological views. It is known that both alcohol and water are promptly absorbed from the stomach. "Alcohol has often been found distilled into the closer cavities of the brain, instead of passing off by the lungs, the usual safety-valve. These and various other facts prove that alcohol may enter the blood without decomposition. From long habit of drinking, the blood becomes surcharged with this inflammable poison, as the breath indicates even when the drunkard is sober. This poison deranges all the functions of life; and if the lungs failed to throw off all the hydrate of carbon and alcohol, as inflammables, the oxygen might ignite the carbon and alcohol, and thus set up a spontaneous combustion in every part of the body where red blood circulates." p. 44. The author gives the following summary of his views upon the *reciprocal chemical changes of the blood in the capillaries of the lungs and system; and the connection of respiration with calorification.*

"1. The lungs perform an excretal office on which life constantly depends, because directly and indirectly aiding calorification.

"2. The substance thrown off is hydrate of carbon.

"3. The carbon, on coming in contact with atmospheric oxygen, combines with it, forming carbonic acid gas, which is thrown off from the lungs and skin by expiration and perspiration.

"4. The amount of latent heat of the oxygen gas employed, is much greater than that of the carbonic acid gas formed in the lungs, and hence caloric is set free, imparting heat to the blood and surface.

"5. This free heat also combines with the water of the hydrate of carbon, and converts it into vapour.

"6. The lungs and cutaneous surface aid in regulating animal temperature by the conversion of water into vapour, thus conveying off any excess of free caloric in the system by combining with it in the form of latent heat.

"7. The water of the hydrate of carbon is converted into vapour in the lungs and upon the surface, precisely as when wood is burned, and hence assumes the form of insensible respiratory and perspiratory transpiration.

"8. Facts appear to show that the chemical change in both venous and arterial blood may occur, independent of the vital principles, by applying to the *venous*, oxygen gas, and to the *arterial*, carbonic acid gas.

"9. The systemic red capillaries are the antagonists of the pulmonary, and are constantly decomposing carbonic acid, and with water forming hydrate of carbon,—or in other words, carbonizing the blood.

"10. From this union, water and carbonic acid are transformed into a solid substance; and hence *latent* becomes *free* heat, at every point where red blood circulates.

"11. The function of the systemic red capillaries of the body in *decomposing*, and that of the small vessels of the lungs and skin in recomposing, carbonic acid gas, reciprocally depend upon and balance each other; in other words, one set *carbonizes*, the other *decarbonizes* the blood.

"12. In consequence of this indissoluble link which connects the functions of respiration and calorification, the degree of temperature, the carbonic acid evolved, and the size of the lungs as compared with the bodies of animals, always bear a direct ratio to each other.

"13. There is a beautiful analogy between animals and vegetables in the decomposition of carbonic acid by the minute vessels of each.

"14. This explanation shows that the great end and function of respiration is, both directly and indirectly, to aid in the all-important office of the generation and diffusion of animal heat." Pp. 45–47.

The author shows that the lungs are not only employed in the function of excretion and calorification, in expelling and oxidizing the carbon of the hydrate of carbon, but are the last of the organs of hematemesis, viz. :—

"1. In decarbonizing the chylous and other constituents of blood, thus fitting them for nutrition.

"2. This decarbonization of the elements originally entering the animal as food, furnishes the carbon of carbonic acid, and the hydrate of, employed in the function of calorification.

"3. That the oxides of iron are the first instruments for oxidizing and deoxidizing carbon, as the important agent in calorification, while atmospheric oxygen is the last agent.

"4. The protoxide of iron is the carrier of the carbonic acid from the lungs to the systemic capillaries.

"5. The affinities of the iron in its circle for calorification show, that if either oxide exists as a constituent of blood, the other oxide must necessarily be formed,—the *pulmonic and systemic* capillaries antagonizing and balancing each other in *oxidizing* and *deoxidizing* these compounds." Pp. 65, 66.

The following is the "GENERAL SUMMARY AND INFERENCES" with which the work concludes:—

"SYNOPSIS OF THE CIRCLE OF CHEMICAL CHANGES IN ANIMAL LIFE.

DIAGRAM 10.

Gastric, Hepatic, and Duodenic Secretion and Digestion.

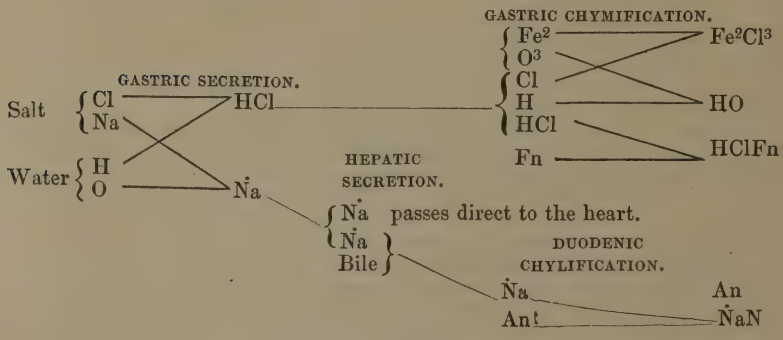


DIAGRAM 10.—EXPLANATION.

"GASTRIC SECRETION.—Double decomposition of the *water* and *salt* is effected by the organism of the stomach, in a manner analogous to the action of electro-

galvanism on the same compounds. In this decomposition the *oxygen* (O) of the water unites with the *sodium* (Na) of the *salt* to form *soda* (Ṅa): the *hydrogen* (H) of the *water* unites with the *chlorine* (Cl) of the *salt* to form (HCl) the *free muriatic acid* of the gastric secretion.

Gastric Chymification.—*Free muriatic acid*, as a general solvent of the food, unites with *peroxide of iron*, (Fe^2O^3), one of the constituents of the food, and forms by double decomposition *water* (HO) and the *perchloride of iron* (Fe^2Cl^3). Another portion of the *muriatic acid* unites with *fibrin* (Fn) forming a soluble compound, (HClFn).

Hepatic Secretion.—The *soda* (Ṅa) is carried to the liver by the gastric veins. A part goes thence, by the vena cava hepatica to the heart: this is the *free soda* of the blood. Another part of the *soda* is incorporated with the bile.

Duodenic Chylification.—This *soda* of the bile, passing into the duodenum, unites with *albumen* (An) rendering it soluble (ṄaAn).

The various components of the chyle, *perchloride of iron* (Fe^2Cl^3), *water* (HO), *soluble fibrin* (HClFn), *soluble albumen* (ṄaAn), &c., pass by the lacteals and the left subclavian vein, through the heart, to the pulmonic capillaries.

Diagram 11.

Pulmonic Capillaries in the Function of Hæmatosis.

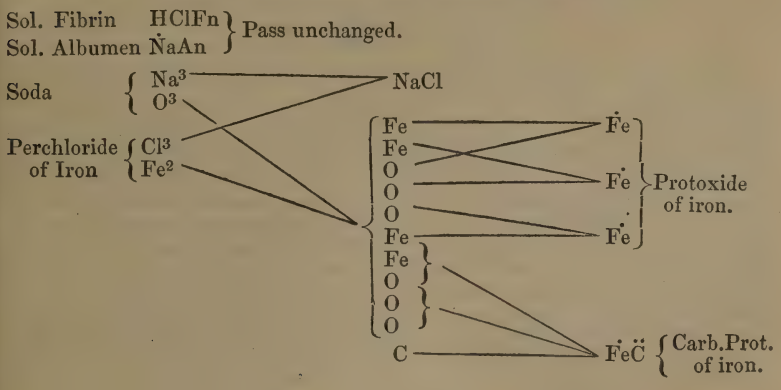


Diagram 11.—Explanation.

"*Soluble fibrin* (HClFn) and *soluble albumen* (ṄaAn) pass through the pulmonary capillaries unchanged. The free *soda* (Ṅa) of the blood and the *perchloride of iron* (Fe^2Cl^3), by double decomposition, become *common salt* (NaCl) and *peroxide of iron* (Fe^2O^3); the latter, in contact with the carbonaceous compounds of the blood, is converted into *protoxide of iron* (Ḟe), and *carbonate of protoxide of iron* (FeC̈). These pass on to the systemic capillaries together with the *soluble fibrin* and *albumen*.

DIAGRAM 12.

Systemic Capillaries in the Functions of Calorification and Nutrition.

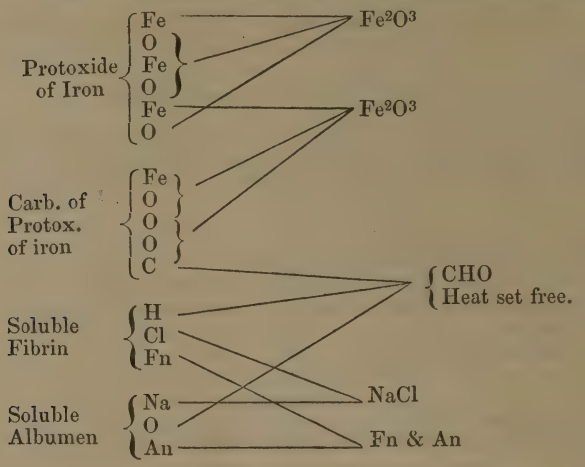


DIAGRAM 12.—EXPLANATION.

"*Protoxide of iron* ($\dot{F}e$) and *carbonate of protoxide of iron* ($\dot{F}e\ddot{C}$) are converted into the *peroxide of iron* (Fe^2O^3), the *carbon* (C) being set at liberty. Double decomposition takes place between the *muriatic acid* (HCl) of the *soluble fibrin* (HClFn) and the *soda* ($\dot{N}a$) of the *soluble albumen* (NaOAn): the *elements of water* (HO) go to unite with the *carbon* (C), set free from the *carbonate of protoxide of iron* ($\dot{F}e\ddot{C}$), to form *hydrate of carbon* (CHO), while the *chlorine* and *sodium* form *common salt*, which, with other waste molecules, passes off from the system through the excretory organs. The *fibrin* and *albumen* are simultaneously deposited for NUTRITION.

The change of the *carbon* from *carbonic acid* ($\ddot{C}$) into the solid *hydrate of carbon* (CHO) gives rise to an evolution of heat; and this process, taking place at all points of the organism where red blood is converted into venous, produces UNIVERSAL CALORIFICATION.

DIAGRAM 13.

Pulmonic and Cutaneous Capillaries in the Functions of Excretion and Calorification.

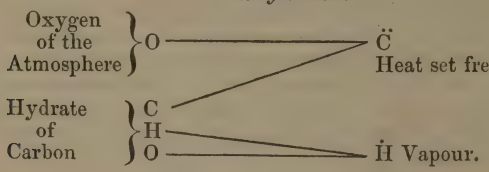


DIAGRAM 13.—EXPLANATION.

"In the lungs and skin the *oxygen* (O) of the air, meeting with the *hydrate of carbon* (CHO), forms *carbonic acid* ($\ddot{C}$) and *watery vapour* ($\dot{H}$), both of which pass off as EXCRETIONS.

"As in burning wood, the formation of the same products is attended with the evolution of heat more than sufficient to disengage the *carbonic acid* and water in the æriform state, so from the lungs and skin the *carbonic acid* and *water* escape in the gaseous form, and leave still a large surplus of heat to warm the passing currents of the blood, and unite with the systemic capillaries in the function of UNIVERSAL CALORIFICATION.

"*Physiological and Pathological Inferences.*

"*Coagulation Explained.*—It has already been explained how the vital chemistry of the stomach overcomes the usual affinities of the elements of salt and water; how the new formations, soda and muriatic acid, become the carriers of the new elements for calorification and nutrition; and how the diversified processes of vitality use the elements carried by them to the organism, and how, by the restoration of the usual affinities of chlorine and sodium, salt and water are re-formed. It must be quite intelligible how fibrin, in union with muriatic acid, like iron so combined, may have its carrier taken from it by soda, whether this be united with albumen, or free in the blood. The fibrin may be employed separately from albumen when fibrin only is wanted in any organic process, by its muriatic acid uniting with the free soda of the blood. When death occurs, the rotary motion of the globules, observed during life, soon ceases, the control of vitality over chemical changes must also cease; the congregation is broken up, and each element finds its old associate in the wide world of inorganic nature. So, also, to arrest the vital fluid in a blood-vessel, or to draw it from the body, suspending the usual rotary movements of its globules, breaks up the vital, and subjects it to inorganic affinities. While the albumen still remains dissolved in the serum, the soluble fibrin becomes solid; its muriatic acid combines with the free soda, precisely as in the vital process just explained.

"*Probable Function of the Mesenteric Glands.*—Soda is the solvent of albumen. That muriatic acid is the solvent of fibrin and other animal elements, has been drawn as a deduction from the facts noticed in the progress of our present inquiries. Not only does this explain coagulation, but considered in connexion with *two* facts noticed by physiologists, it seems to shed some light upon the hitherto undetermined function of the mesenteric glands.

"*One* fact is, that fibrin is *decomposed* by muriatic acid. If so, the muriatic acid of the stomach should have a like effect in digestion.

"A *second* fact is, that fibrin cannot be detected in chyle until this has passed the mesenteric glands. The *first* fact would seem to show, that the stomach must change the arrangement of the elements of fibrin; and the *second*, that the function of the mesenteric glands, in restoring fibrin as a constituent of chyle, must be analogous to the function of vegetables in primarily forming fibrin from inorganic elements.

"It would, from these facts, considered in conjunction with that of coagulation, seem probable, that the function of the mesenteric glands may be to recombine the elements of fibrin decomposed by the stomach, and restore them to their primary arrangement, to be subsequently held in solution by the muriatic acid.

"*Is there free Carbonic Acid in Blood, both Arterial and Venous?*—The affirmative of the question is maintained by Müller, Carpenter, and numerous other physiologists of eminence. While coagulation is one of the prompt chemical changes of blood withdrawn from the vital influence, others still more prompt occur; such as the reddening of venous blood by oxygen, and the darkening of arterial by carbonic acid. It has been already shown, that the very same chemical changes result from the application of these gases to arterial and venous blood *in*, as *out* of the body. If venous blood be acted upon by atmospheric air out of the body, the ignition of the hydrate of carbon produces carbonic acid gas, and reddens it, as when passing the lungs. This may exhibit all the appearances of pre-existing carbonic acid in the blood. So of arterial blood; the carbonate of protoxide of iron formed by the function of hæmatosis

in the lungs, if exposed out of the body to the influence of *oxygen*, would evolve the carbonic acid, giving to the arterial blood all the appearance of containing free carbonic acid.

"From the well-known affinity of free soda for carbonic acid, it seems fair to infer, that if this acid entered the blood-vessels by the stomach, the two would at once *combine as carbonate of soda; thus accounting for this compound as a constituent of blood.* Moreover, facts show carbonic acid gas to be a noxious agent in blood, as when absorbed in respiration. It may be objected, that this result is produced by excluding oxygen, which is the usual stimulus of the lungs. But the fact, that carbonic acid gas produces death much more suddenly than many other non-respirable gases, even when largely diluted by atmospheric air, seems to show, that its absorption must contribute to its suddenly fatal effects. These facts and considerations seem to show, that free carbonic acid is not a constituent of blood.

"*Sudden Death from Air entering the Jugular Vein, explained.**—The oxygen ignites the hydrate of carbon, and evolves carbonic acid, which almost instantly reaches the pulmonic capillaries. This, as when entering from the pulmonic air vesicles, produces the like noxious influence, and accounts for sudden death.

"*Animal Fat a reserve of Fuel for Calorification.*—Animal fat abounds in carbon, and Liebig thinks it a reserve supply connected in some way with respiration and calorification, although he has not explained how its carbon is ignited. This is sufficiently shown by the previous explanation of the manner in which carbon, derived from other sources, is employed in calorification. The large amount of fat which hybernating animals take into their retirement, supplies the necessary fuel for their long period of slumber.

"*Heat of Fever.*—In fever, the source of carbon, by way of food, is mainly cut off. Emaciation is rapid, showing prompt absorption of the fat. There is a constant correspondence of activity in the three great functions of respiration, circulation, and calorification.

"The larger proportion of carbon in animal fat than in ordinary food, and the hurried respiration and calorification, constitute a combination of causes, which could not fail of producing a morbid degree of animal heat. As this store of carbon becomes exhausted, the febrile heat necessarily moderates.

"*Fœtal physiology*, as usually taught, comes in direct conflict with the views of respiration and calorification which have been offered. It has been handed down from physiologist to physiologist, as a settled principle, that the placenta of the fœtus performs the usual office of the lungs in the adult; but, either this principle, or our whole theory of respiration and calorification, must be founded in error. The single circulation of the fœtus before birth, and the anatomical structure of the placenta, show no provision but for vegetable life; that is, to furnish and deposit, but not to carry off the refuse elements of the nutriment. There are no excretions, no pulmonary or cutaneous vapours, no carbonic acid discharged, nor is there any change of colour in the fœtal blood, as it goes to, and returns from the placenta. There can, consequently, be no formation of hydrate of carbon, as in the adult, for calorification,—no necessity for any pulmonary apparatus to decarbonize the blood. The elements of growth must, hence, be prepared by the maternal vessels, and furnished through the medium of the placenta, in office analogous to the roots of vegetables; while the heat is furnished from the mother or from some other exterior source, as in incubation. Until the lungs are set in play, the systemic capillaries cannot form, or send on for ignition to the pulmonary capillaries, the hydrate of carbon for calorification. The capillaries of the lungs in the fœtus may, doubtless, as in the adult, perform the function of hematosis, converting, by double decomposition, the free soda of the blood and perchloride of iron formed in the mother's stomach, into the hydrated peroxide of iron, that this may be in readiness for decarbonizing the vital fluids as soon as respiration commences.

* For a better explanation, vide MONTHLY JOURNAL for August 1844, pp. 671–690, and for September, pp. 777–788.

"The sudden appearance of dots of red globules in the formation of new parts and vessels, as these permeate the coagulable lymph, admits a like explanation. The free soda and perchloride of iron being at the extremities of the previously colourless vessels brought together, there undergo a double decomposition, and thus complete the red globule.

"*The Liver principally an Organ of Hematosis.*—Physiologists have expressed very different views of the function of the liver, many believing it principally an organ of excretion; others that it is also an organ of hematosis. That soda is furnished by the gastric capillaries for the hepatic secretion, renders it probable that not only this important constituent of bile, but that various other materials are sent from the stomach and bowels to the liver for combination, during the process of chymification and chylification. Moreover, the diversity of elements constituting bile, the slow secretion thereof during the intervals of meals, and its rapid secretion during digestion, appear to indicate that various alimentary substances may be absorbed for direct conveyance through the portal vein to the liver for new elaboration. That almost all the soluble parts of bile enter into the chylous fluids, and are absorbed into the circulation, strengthens the belief that the principal function of the liver is to combine in the globule of bile, the materials from the food, to fit them for the subsequent formation of chylous fluids and blood.

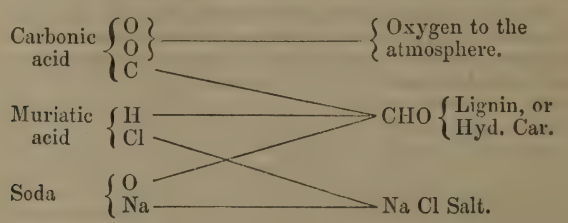
"*An Objection that Carbonic Acid is evolved in the Respiration of Hydrogen and Nitrogen, Answered.*—An objection to this theory of respiration and calorification has been offered, at first view very formidable, viz.: that of the evolution of carbonic acid gas when nitrogen and hydrogen are respired. This fact seems to have confirmed Müller, Carpenter, and other distinguished physiologists, in the belief that carbonic acid gas is an educt from the blood, instead of a chemical product of respiration. Müller expresses the belief that the experiments of Sir H. Davy and others upon warm-blooded animals 'are of no value,' because they 'can be kept in hydrogen but a short time,' and that their lungs 'contain carbonic acid at the commencement of the experiment.' He thinks a long time necessary to such experiments, and cold-blooded animals are accordingly made the subjects, because of their tenacity of life. But are experiments upon these more conclusive? This class of animals evolve far less carbonic acid than warm-blooded, and live far longer without the presence of oxygen; while in some, respiration appears mainly performed by the skin. The amphibia remain submerged for a considerable time, the whale about an hour, without a new supply of atmospheric air. It can hardly be doubted, that frogs and all such animals, can carry in the air-cells a sufficient supply of oxygen to last them during their stay under water. Upon breathing hydrogen or nitrogen, it is fair to infer that respiration would alike go on for some time, before the supply of oxygen would be exhausted, when the same effects would occur as in warm-blooded animals. Until these occurred, the oxygen would oxydize the hydrate of carbon, and form carbonic acid, to be thrown off from the lungs. But Müller also states, that 'frogs fall into a state of asphyxia, when made to respire in hydrogen and nitrogen.' Can it be reasonably doubted, that the asphyxia occurs in both classes of animals from the like cause, the exhaustion of the air-cells of oxygen? If not, oxydation of hydrate of carbon might obviously go on, till asphyxia suspended the respiratory movements in the cold-blooded animals.

"*Analogies and Differences between Animal and Vegetable Digestion and Nutrition.*

"We find in vegetable and animal fluids and solids the same compounds as the products of their vital movements, viz.: albumen, fibrin, casein, and compounds of iron. As animals derive their food from vegetables, these compounds must be of *primary* vegetable origin. Organic compounds are all found in soils, especially in those rich in decaying animal and vegetable substances. In vegetables, as in animals, their elements must be rendered soluble in order to ascend in their capillaries, whether or not vegetable digestion and nutrition consist

wholly in an original elaboration of elements from inorganic nature. That some vegetables are essentially constituted from a primary elaboration of inorganic elements, is doubtless true; but there can be little doubt that they also digest and deposit for nutrition, vegetable and animal compounds. In order to effect the necessary solution of the oxide of iron found in vegetables, some solvent, like muriatic acid, of the gastric juice of animals, is indispensable. Common salt and water are as necessary to vegetable as to animal life; and hence the wise Creator has provided that they shall always be in apposition in rain water, which contains common salt as a uniform constituent. The fact that fruit trees, which have been unproductive, will often yield abundantly by digging around them and depositing salt near their remote roots, is an evidence that salt is as necessary to vegetable as to animal digestion. Admit the truth of this deduction, and the explanation of the manner in which iron finds its way through the vegetable capillaries, to form a constituent of their solid organism, becomes obvious. Double decomposition of salt and water, by the radicles of the roots of vegetables, would, as in animals, furnish muriatic acid to dissolve the iron, converting it into the soluble perchloride, fitted for capillary ascent; while soda would be simultaneously formed, ready to reconvert the chloride of iron into the *peroxide*, and also to re-form salt as soon as the iron reached the point of destination. The reason of salt being a uniform constituent of vegetables, must be obvious; since when thus re-formed, there is no return circulation, as in animals, to carry it off as an excretion.

"*Formation of Hydrate of Carbon in Vegetables.*—To form hydrate of carbon, according to all analogy, should require a like chemical action in vegetables and in animals. In animals we have shown, that each of three binary compounds yields an element by what may be properly designated *triple* decomposition, to form this compound for calorification. So in vegetables, carbonic acid (C̈), muriatic acid (H Cl), and soda (Na O), each yields an element to form hydrate of carbon; thus,

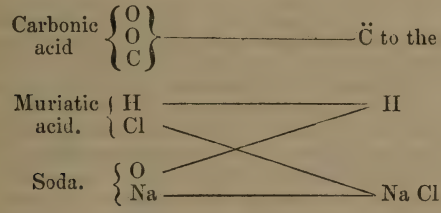


"This is what may be called triple, or vital decomposition; each of three binary inorganic compounds yielding an element to form the first and simplest triple compound of vital chemistry. We have shown by former facts, that the very same carbonaceous combustible is formed, by diffusing carbonic acid in arterial blood, out of, as in the animal; and that this combustible hydrate of carbon must in both instances have been formed by the triple decomposition just stated.

"Muriatic acid and soda, formed by the radicles of vegetables, carry up in solution the elements of vegetable growth, and evolve them where their double decomposition furnishes the elements of water to form the hydrate of carbon, as in animal *nutrition*. Here also, there being no return circulation, (as in animals), the hydrate of carbon is deposited as the essential, solid structure of plants, (analogous to the bones of animals), while in animals, the hydrate of carbon is used in their functions of calorification and respiration. These functions in animals, as compared with vegetables, seem to be superadded and intermediate between those of digestion and nutrition.

"Another difference of animal and vegetable physiology has already been noticed, that of the oxygen of the carbonic acid being thrown to the atmosphere in vegetables, but not in animals. This triple decomposition of soda,

muriatic and carbonic acids, does not occur, except when the vegetable is subjected to the influence of the sun's rays, while carbonic acid, undecomposed, passes at other times from the leaves. This is beautifully illustrated in the growth of water plants under ice, as before noticed. Vegetable growth takes place even where the sun's rays are not admitted, as in mines; and it is doubtless true, that it continues during the night, although the carbonic acid is not then decomposed to form hydrate of carbon. This growth of vegetables in the absence of light, may be illustrated thus:—



"The carbonic acid (Ċ), instead of yielding carbon to form hydrate of carbon at the leaves, as when the sun shines, is given off unchanged to the atmosphere, while the water (Ḣ), and salt (NaCl), recomposed, remain as constituents of the plant. Any organic elements, such as fibrin, albumen, or casein, found in soils, or the inorganic earthy elements, such as iron, lime, &c., are rendered soluble by the muriatic acid and soda at the roots. After ascending in the sap, they would be deposited for the *nutrition* of the vegetable after the recomposition of salt and water, as in the nutrition of animals. The water thus re-formed, remaining *fluid*, instead of helping, as when the sun shines, to compose *solid* hydrate of carbon, accounts for such vegetables as grow in the dark being more succulent and less solid than others.

"These analogies of animal and vegetable digestion and nutrition, show why vegetables contain the alkalies or chlorides, as constituents of their solid organism, while animals do not, these throwing them off as *excretions*, after the soda and muriatic acid have served their office of carriers." Pp. 84–107.

An Inquiry into the Physiological and Medicinal Properties of the Aconitum Napellus, (Monkshood); to which are added, Observations on several other species of Aconitum. *By* Alexander Fleming, M.D. 8vo, pp. 160. London: 1845.

The work before us is, (in a revised form,) an Inaugural Dissertation which obtained from the Senatus Academicus of the University of Edinburgh, a Gold Medal, at the Graduation of 1844. "In 1842," the author "performed a series of experiments on animals; and in the autumn of 1843 commenced his observations, which he has continued to the present time, of the physiological and therapeutic action of the remedy on man. His residence, during this period, in the Royal Infirmary, afforded him every facility for hourly and continual observation of its effects, which were noted with scrupulous care and accuracy." Dr Fleming does not pretend to give a complete treatise on Aconite; but chiefly contents himself with detailing what came under his own observation.

The History, Botany, and Physical characters of the plant are well and succinctly stated. The appearance of the Aconitum Napellus is familiar to most, as its beauty and gracefulness give it a place in many gardens. "It is an elegant plant, from two to six feet in height, with dark green leaves, and a beautiful raceme of rich blue flowers." The A. paniculatum,—an almost inert species,—cannot be distinguished from it by well-marked botanical characters; but

may easily be known by its lengthened helmet and loose panicled inflorescence. Its flowers are of a paler colour than those of the A. napellus—its leaves less divided—and its tubers smaller, and of a more rounded form. It also flowers several weeks later in the season." Cultivation and climate do not seem to change to any great extent the properties of the A. napellus; though on this point authorities differ. The root is the most powerful, and the best part of the plant for medicinal purposes. It ought to be cut in thin slices, dried at a low temperature, and bruised to powder. From tubers so prepared, an alcoholic tincture can readily be made.

The Physiological action of Aconite upon the Lower Animals was made the subject of extensive and well-directed experiment by Dr Fleming. The experiments are reported at length, and will repay perusal. The general results deduced from them by the author, are thus embodied in one description.

"Aconite, when introduced into the system of one of the lower animals, produces, in the first instance, weakness of the limbs and staggering. The breathing then becomes either slightly accelerated, or slow and labouring. The paralysis increasing, the animal is at last unable longer to support itself, and lies down upon its side, with the extremities stretched out in a relaxed state. The general sensibility of the surface is impaired, and, towards the fatal termination, is altogether lost. Blindness, to a greater or less extent, soon supervenes; the breathing becomes gradually slower and more imperfect; and after a few spasmodic twitches, death by *asphyxia* ensues.

"On examination of the body immediately after death, the heart is found beating with considerable strength, nor does its action cease for some time. The peristaltic motion of the intestines also continues. The irritability of the voluntary muscles is impaired, as is evinced by their being less easily excited to contraction by mechanical irritation, than is usually the case, although they still respond readily to galvanism. General venous congestion exists; the right side of the heart is distended; there is engorgement of the venæ cavæ, of their tributary veins, and frequently of the brain; venous blood may usually be detected in the left side of the heart, and in the aorta. The blood coagulates, and the muscles become rigid as usual.

"Generally speaking, as already stated, only a few spasmodic twitches occur, such as are usually observed in death by asphyxia from whatever cause. In some of the experiments detailed in the Appendix, however, there were decided convulsive movements, and, in two, distinct opisthotonos, evidently the effect of *congestion of the brain*, the existence of which state was inferred from the fact that the convulsions did not, in general, occur until the animal had been under the influence of the poison for some time, when, from the advancing asphyxia, there must have been a highly congested condition of the venous system. This view was confirmed by the *post mortem* examinations.

"In general, the *pupil* is more or less *contracted*, dilating to its natural size immediately on the cessation of the respiration. This symptom seems attributable to the same pathological cause as the convulsions, and for the same reasons. It was present in all the cases in which convulsions occurred. In the two experiments (20, 21), on the other hand, in which the muriate of aconitina was injected into the veins, and where, from the rapidity of the fatal result, very slight venous congestion could have existed, the pupils dilated, and continued to do so up to the moment of death; apparently showing, that *dilatation* is the specific or direct effect of Aconite on the pupil." Pp. 10—12.

Muscular paralysis, a diminution of the common sensibility, and a sedative action on the heart, are, according to the experiments of Dr Fleming, the chief symptoms caused by Aconite. The tincture of Aconite, and the alkaloid Aconitina, act precisely in the same way. The energy and rapidity of their operation is in proportion to the quickness with which they are received into the circulation. The intensity of effect is greatest of course when it is directly introduced into a blood-vessel, and least when applied to the unbroken skin; and, again, it is more energetic when received by the stomach, than when introduced into a serous cavity, or into the cellular tissue.

The Topical Action upon Man is very decided:—it is that of a direct sedative to the nerves of common and special sensation. Tingling and numbness of the part follow its application.

The Physiological Action upon Man in Small or Medicinal Doses is very clearly, and, from all we have seen of the drug, we think that we may add, very correctly unfolded.

Before we proceed, however, to quote the author's graphic descriptions, we must pause to protest loudly and solemnly against the reckless disregard of human health and life, which enabled him to witness the horror-striking sights, which furnish the materials for his account of *the fourth degree of operation*. We do not wish to be harsh; we do not presume specially to condemn any one; but this we say, that *wherever* Dr Fleming saw—and apparently he saw upon a large scale—the phenomena described in the paragraph referred to, *there* unquestionably existed, frightful tampering with human life. Sorry should we be to think, that the Gold Medals of the Medical Faculty of the University of Edinburgh should ever tempt aspirants to academic honours, to avail themselves of the present state of our Medical Charities, by experimenting with poisons upon the poor.

"*Physiological Action on Man in Small or Medicinal Doses.* I shall, in the first place, take a general view of the ordinary effects of Aconite in small or medicinal doses; and, for the sake of convenience, shall consider these under four degrees of operation.

"*First Degree of Operation.*—In the course of twenty minutes or half an hour, after the exhibition of five minims of the tincture, a feeling of warmth in the stomach is usually experienced, which is occasionally accompanied by slight nausea and oppression of the breathing. After the lapse of thirty or forty minutes, this sense of warmth is diffused throughout the body, and, in a few minutes more, is attended by numbness, tingling, and a sense of distention of the lips and tongue. There is also tingling at the tips of the fingers, and a peculiar sensation is felt at the roots of the teeth. The feeling of warmth soon disappears, but the numbness and tingling of the lips and fingers continue for a period, varying from one to three hours. Slight muscular weakness is generally experienced, with indisposition for exertion either mental or corporeal. In about half an hour more, the pulse is found to be diminished in strength; and in another hour, both the pulse and the respiration have become less frequent. Thus, a pulse, which, in the normal state, beats seventy-two in the minute, will, by that time, have fallen to about sixty-four, and the respirations, supposing them to have been eighteen, to fifteen or sixteen.

"*Second Degree of Operation.*—Should a dose of ten minims be given at first, or the first dose of five minims be succeeded in two hours by another of equal amount, these symptoms supervene more rapidly, and with greater severity. The tingling extends along the arms, and the sensibility of the surface is more or less impaired. In an hour and a half, the pulse will probably have fallen to about fifty-six beats in the minute, and become smaller and weaker than before, still maintaining, however, perfect regularity. The respirations will have diminished to about thirteen, presenting, at the same time, a slow labouring character. Great muscular debility is now experienced; and giddiness, with confusion of sight, comes on when the erect posture is assumed. The individual sinks into a lethargic condition, evinces great disinclination to be disturbed, although he rarely falls asleep, and complains much of chilliness, particularly in the extremities, which are cold to the touch. These phenomena continue in their full intensity from three to five hours, when they gradually disappear; a sensation of languor, which lasts for several hours more, alone remaining.

"This is the utmost extent to which I would recommend the physiological effects of Aconite to be carried, in order to obtain, with safety and success, its therapeutic action.

"*Third Degree of Operation.*—On the administration of five minims more,

two hours subsequent to the last dose, the sense of warmth, and the numbness and tingling, again spread rapidly over the body. The sensibility of the surface is still further diminished; lancinating pains in the joints are occasionally complained of; the headach, vertigo, and dimness of vision, are aggravated; the countenance grows pale and anxious; the muscular feebleness increases; the voice becomes weak, and the individual is frequently impressed with the dread of approaching dissolution. Occasionally the pulse is reduced still further in strength and frequency, perhaps falling to 40, or even 36 beats per minute, but still maintaining its regularity. More frequently, however, it rises to 70 or 80, and becomes small, weak, and probably more or less irregular. The respiratory movements are also irregular, being either short and hurried, or deep and sighing. The surface is moist, and still farther reduced in temperature. Sickness may now come on; and, if formerly present, is much aggravated, and probably attended by vomiting. These symptoms do not entirely subside for one or two days.

"*Fourth Degree of Operation.*—On the administration of a fourth dose of five minims, two hours after the third, the symptoms assume a more alarming character. The countenance becomes pale and sunken; froth issues from the mouth, and the prostration increases. Some thus affected have stated, that they felt as if dying from excessive loss of blood. Consciousness usually remains; or there may be slight wandering delirium, as occurs also after profuse hemorrhage. The voice is whispering, or is altogether lost. The pulse becomes still smaller, weaker, and more irregular; and the breathing more imperfect. The surface is colder than before, and is covered with a clammy sweat.

"I have seen patients recover from this state under the administration of proper remedies.

"When the action of the drug is carried to a fatal extent, the individual becomes entirely blind, deaf, and speechless. He either retains his consciousness to the last, or is affected with slight wandering delirium; the pupils are dilated; general muscular tremors, or even slight convulsions, supervene; the pulse becomes imperceptible, both at the wrist and heart; the temperature of the surface sinks still lower than before; and at length, after a few hurried gasps, death by *syncope* takes place.

"It must be borne in mind, that these symptoms do not, on all occasions, occur in the uniform manner in which they have now been described. On the other hand, some of them may be entirely absent; while others, not yet mentioned, but to which I shall afterwards allude, may appear." Pp. 22—25.

The Remote Action of Aconite upon the Cerebro-Spinal System is stated by Dr Fleming to be exerted in three ways, viz. 1st, Primarily,—by its direct or specific action when conveyed to it by the blood; 2d, Secondarily,—by its sedative action on the circulation; and, 3d, By producing engorgement of its venous system.

The Action of Aconite on the Muscular System, is "directly and powerfully sedative," the debility enduring "according to its intensity from a few hours to several days."

Four practical inferences are drawn from the statements just made, as to the action of the drug upon the cerebro-spinal and muscular systems, viz:—

1. "That it is calmative, anodyne, and anti-spasmodic.
2. "That it is an advisable antiphlogistic in apoplexy, phrenitis, or any disease in which the circulation of the brain is excited.
3. "That it is contra-indicated in headach, arising from anemia, or chlorosis; and wherever there is a torpid or paralytic condition of the muscular system.
4. "Its properties suggest its employment in convulsive or spasmodic diseases." Pp. 30, 31.

From an attentive perusal of the cases and experiments detailed by the author,

as well as from some experience which we have had with the Aconite, we are prepared to assent to the *first* of these propositions. In most cases, however, in which calmatives, anodynes, and anti-spasmodics are indicated, we will still prefer to prescribe safer medicines; but in rheumatic fever, for example, when the patient is racked with pain, and has inordinately strong action of the heart, we conceive that it would often be very useful to give small doses of aconite, either alone, or mingled with opium, antimony, and henbane.

The *second* proposition is perhaps too broadly stated. It is true, however, that it is often judicious in apoplexy, to produce a direct sedative effect upon the heart,—without diminishing the quantity of blood; and in these circumstances—no contra-indicating specialty existing—we would not object to the cautious administration of a succession of a few small doses of Dr Fleming's pet medicine. Experience has shown that excessive or "heroic" depletion in apoplexy favours effusion,—the very evil which it is supposed by many to be the most effectual means of preventing. Antimony has hitherto been our favourite depressing remedy in apoplexy; but for the future we would be inclined to make trial of a combination of it with Aconite.

The *third* proposition is obviously a sound one; and so is the *fourth*, if we be allowed to add to it these words—"when the more common, and safer remedies have failed."

The Effects of Aconite on the vascular system are important and remarkable. We have had opportunities of making several observations on this point, so far as they go, which perfectly agree with the following statements of Dr Fleming.

"Aconite exerts a *direct sedative* influence on the vascular system, reducing, more or less, according to the dose administered, the strength, volume, and, in the first instance, the frequency of the pulse. The diminution in frequency varies much, *cæteris paribus*, with the individual; the pulse, in some cases, not falling below 60, and, in others, sinking so low as 48, 40, and even 36. As a general rule, it maintains its regularity as long as it continues to become slower. On the sedative action being carried further, it rises in frequency, becomes irregular and intermittent, and still smaller and weaker. Its character is then, frequently, most remarkable. It may present, *First*, Irregularity in point of strength and volume. An ordinary beat, of moderate size, may alternate with a small, almost imperceptible, pulsation, such as is observed in some cases of heart disease; the pulse, at the same time, not presenting any irregularity in point of rhythm. *Secondly*, It may be simply intermittent, the pulsations not differing from each other in strength and volume. One of these intermissions may last for several seconds. In one instance, I repeatedly observed no less than ten seconds to elapse without any perceptible pulsation at the wrist. *Thirdly*, More frequently the pulse is irregular, both in point of rhythm and strength. Thus a pulse which, for three, four, or more beats, is weak but regular, of moderate size, and beating at the rate of 36 or 40 per minute, may suddenly become much smaller and weaker, and rise to 120. After fifteen or twenty pulsations more, its character may again change, and, for the next few seconds, a full and soft beat may alternate with a nearly imperceptible one. In a short time, it may become intermittent, only to resume, in another minute, one of the characters already described. I have observed the pulse continue in this anomalous condition for one or two hours, after every other symptom of the action of the drug had disappeared. It sometimes presents, in a very marked degree, the character described by the term *labouring*, in which case its beat suggests very forcibly the idea, that the heart is suffering from some depressing influence. Each contraction appears to be performed slowly and with difficulty, and the artery may positively be felt distending tardily under the finger. In such cases, the cardiac sounds, as heard by the stethoscope, are weak and indistinct. When, on the other hand, the pulse is quick, irregular, and intermittent, they are confused and interrupted, as if many of the contractions of the heart were imperfectly performed.

"To prove, beyond doubt, that the sedative effect exerted on the circulation is direct, I have frequently examined the pulse, every five or ten minutes, for

one or two hours after the exhibition of a dose. In general, the first perceptible change was a diminution of strength, and, in a few cases, of frequency; but in no instance did I observe the slightest tendency to primary excitement.

"We must regard the rising of the pulse, after it has fallen to a certain standard, merely as an indication of increasing debility, and as the effect of an effort, on the part of the heart, to compensate for diminished power by increased frequency; while the irregularity and intermissions which follow, are evidently the result of the inability of the organ to maintain steadily this augmented frequency.

"If only two or three doses have been given, the heart recovers itself in a period varying from twelve to twenty-four hours. If, on the other hand, the administration of the drug has been continued for a week or more, several days elapse before it does so; shortly after which event, I have generally observed that the pulse becomes somewhat quicker and fuller than natural; in short, a slight degree of *reaction* is established—an occurrence which we know almost invariably succeeds depression of the circulation from other causes, as loss of blood, cold, shock to the nervous system, &c. In one instance, this state was indicated not only by elevation of the pulse, but by slight headach, with heat and dryness of the skin.

"The effect of *change of posture* on the pulse of individuals influenced by Aconite, may be stated as follows:—Supposing the pulse, under the first degree of operation, to be 64 while the patient is in bed, it will rise, on his assuming the erect posture, to 70 or 80, becoming, at the same time, smaller and weaker. Should the second degree of operation have been induced, lowering it to 56, it will rise, on a similar change of posture being made, to 80 or 90, become much smaller and weaker, and perhaps present an irregular character. If in the third degree of operation, the patient attempt to rise, he will probably fall back in a fainting state. The influence of change of position thus seems to increase in the ratio of the depression which has been induced.

"I may take this opportunity of stating, that patients under Aconite ought to be cautioned against any sudden change of position, which may, when the circulation is very much weakened, as in the *third or fourth degree of operation*, lead to dangerous syncope." Pp. 31—34.

The Practical Inferences which Dr Fleming deduces from a consideration of the action of Aconite on the circulation, are as follows:—

"1. That it is a powerful antiphlogistic.

"2. That it is calculated to be of great value in all cases, where there is inordinate activity of the circulation.

"3. That it is contra-indicated, when there is obvious mechanical impediment to the passage of the blood, particularly through the heart or lungs. It is requisite, therefore, in every case, to ascertain that no such obstruction exists before commencing its use.

"4. That it is contra-indicated whenever there is irritability of the circulation, with great diminution of power, such as occurs after severe venous hemorrhage." Pp. 36, 37.

The frequency of the Respirations is Diminished by Aconite nearly in the same ratio that the number of pulsations is reduced. This phenomenon, as Dr Fleming correctly remarks, may be attributed to one or more of three causes. "1. To a nearly general law in physiology and pathology, that within certain limits, the respirations bear a more or less close relation, in point of frequency, (1 to $4\frac{1}{2}$ or 5) to the heart's pulsations. 2. To the diminished sensibility of the lining membrane of the lungs, in consequence of which the impression of venous blood in their tissue, or of carbonic acid in the air-cells, is more sluggishly conveyed to the brain. 3. To the impaired energy of the respiratory muscles." P. 38.

Aconite in Poisonous Doses.—Three varieties of poisoning have been observed, viz.—*First*, by a powerfully sedative impression upon the nervous system; *secondly*, by suspension of the respiratory function; and, *thirdly*, by syncope.

In proportion to the amount of the drug taken, death ensues in from one and a half to eight hours. Should an individual, who has taken a poisonous dose, survive the latter period, he will probably recover.

Appearances on Dissection.—General venous congestion is usually found.

The Treatment of Poisoning with aconite which the author recommends, is, we think, sound in theory; to gain time, however, to sustain life till the toxical effects are exhausted, should have been more prominently noticed and enforced. If the drug has been administered in a fluid form, we fear that purgatives will be of little use; and if powerful, they may do mischief, by suddenly increasing the debility and tendency to syncope. Without farther comment we submit entire Dr Fleming's remarks on this subject to our readers.

"Provided vomiting to a sufficient extent has not already been excited, as an effect of the poison itself, an emetic must at once be administered. If a sufficient time have elapsed for the poison to have reached the intestinal tube, a cathartic ought then to be given, and followed up, if necessary, by purgative injections.

"Tannic acid, from its power of forming insoluble compounds with the vegetable alkaloids, may be expected to be useful in neutralising the poison. The experiments on rabbits formerly noticed, show that the gastric juice of these animals possesses a similar property. An infusion of the stomach of the rabbit, and probably of certain other herbivorous animals, might, therefore, be serviceable in poisoning by aconite, although, from the length of time which it requires to act, this is more than doubtful.

"In order to combat the *remote effects* of the poison, which have been shown to be powerfully sedative, a *stimulant* line of treatment must be rigidly enforced. Brandy and hot water, with ammonia, will be found most efficacious. Strong coffee has also been used with decided advantage. From my own observation, I am of opinion, that great benefit is to be derived from friction with warm cloths and spirituous liniments, especially along the course of the spine and on the extremities. By thus stimulating the capillaries, the heart's action seems to be materially assisted. Sinapisms, or bottles of hot water, should also be applied to the præcordia and extremities.

"Should convulsions come on, the jugular vein ought to be opened, and a moderate quantity of blood withdrawn. By this means, not only will the congestion of the brain be removed, but relief will be afforded to the heart, the right side of which is, in such cases, much engorged.

"Where there is much dyspnœa, recourse may be had to artificial respiration, which will be of service not only in maintaining the function of the lungs, but also in contributing to keep up the action of the heart, and thus diminishing the tendency to syncope.

"When the action of the heart is becoming very feeble, the effect of slight galvanic shocks passed through it may be tried. In such cases, acupuncture of its walls has been recommended by Carraro." Pp. 52, 53.

The diseases in which Aconite is said by Dr Fleming *to be useful*, are *neuralgia* in various forms, *hemicrania, angina pectoris, cephalalgia, general pains of fever, certain diseases of the heart, acute rheumatism, lumbago, erysipelas, cancer, pruritus, and hysterial spasmodic asthma.*

Those in which its use is most satisfactorily established are neuralgia and rheumatism. It is decidedly objectionable in several of the above-named affections, particularly in the general pains of typhus and other fevers, where the *vis vitae* is at a low ebb. With the following extracts, we must pass on without commentary to the next department of the work.

"*Neuralgia of the Thoracic and Intercostal Nerves—Spinal Irritation.*—I have found the topical application of the tincture extremely successful in the treatment of the neuralgic pains, so frequently complained of by females, as occurring about the seventh, eighth, and ninth ribs of the left side, as well as of *spinal irritation*, both when co-existing with, and independent of, these pains.

"*Neuralgia of the Extremities.*—In a case of crural neuralgia of the right side, where the pain was chiefly seated in a circumscribed spot on the inside of the patella, the external application of the tincture was, in eight days, followed by

a complete cure. The disease, which occurred in a female of thirty years of age, was of three years' standing, and the part had been frequently leeched and blistered without effect—the potential cautery having been the only application which had afforded any relief. An interesting case of neuralgia of the feet, where the internal administration of the drug effected a complete cure, and one of neuralgic stump, in which much temporary relief was afforded by the same means, will be found in the Appendix. Dr Cormack has communicated to me a case of severe neuralgia of the right hand, which was at first treated successfully by the internal use of the tincture. The pain afterwards returned in two of the fingers, to a slight extent; but the patient could not be prevailed upon to resume the remedy, in consequence of its having formerly produced some dimness of vision.

"Two cases of neuralgia of the fingers, in which the Aconite was had recourse to with success, are noticed in the Table of Neuralgic Cases.[1]

"Of twelve cases of *sciatica* in which I have used the Aconite, seven complete and two temporary cures were effected; two cases were partially relieved, and in one only was no benefit experienced. An analysis of these cases will be found in the table; and one of them is, for the sake of illustration, detailed in the Appendix. As far as my own experience goes, I believe it will be found most useful in those cases of sciatica, which appear to owe their origin to a congested or inflammatory condition of the nerve." Pp. 63, 64.

"*Acute Rheumatism.*—Aconite was first recommended in this disease by Störck, and has since been employed, with much success, by many German and Swedish physicians, as Stoller, Guerin, Gesner, Gmelin, Fritze, Murray, Rosenstein, Blom, Odhelius, Ribe, &c. More recently, Drs Lombard and Sigmond have revived its use, with the most encouraging results.

"The annexed table, which is composed of my own cases, and all those recorded by others which I have met with, shows that the average period required to effect a cure under this treatment, is 5·6 days;[2] the usual duration of the disease, under the ordinary treatment, being about a fortnight or three weeks.[3] In three instances, a complete cure was effected in two days; in one, in three days; and in six, in four days. The lowest averages of the duration of the treatment of acute rheumatism are, as far as I know, those furnished by Drs Hope and Corrigan, the former of whom found new cases which remained under treatment for more than a week; while the latter, who treated the disease by opium, gives nine days as the average. The improvement following the administration of Aconite is often very speedy, some alleviation of the pains being occasionally experienced in the course of an hour after the first dose has been taken, while there are few cases in which decided relief, with abatement of the redness, tension, and tenderness, is not obtained in a few hours. A longer period seems to be required to disperse the inflammation in the smaller joints than in the larger ones.

"The table also shows that in two only of all the cases did any affection of the heart supervene. In both of these instances, however, the disease had been detected prior to the administration of the Aconite. In one of them, the cardiac affection improved remarkably under its use. Bouillaud[4] on the other hand states, that in his practice, which was to bleed largely during the first five days, one-half of the cases presented some cardiac complication; and Dr Macleod,[5] who also practised bleedings, though not to the same extent as the former, met with pericarditis in 52 out of 226 cases; that is, in nearly one-fourth of the whole.[6] Thus, Aconite not only effects a cure in a shorter period than any other mode of treatment, but appears to possess the great negative advan-

[1] This Table is important.

[2] Not including the two cases of Synovial Rheumatism.

[3] See Macleod on Rheumatism, 1842, p. 154.

[4] Nouvelles Recherches sur le Rheumatisme, &c.

[5] Op. cit. p. 154.

[6] See Alison, in Cyclop.Pract. Med. Hist. of Medicine, p. 95; Brit. and Foreign Med. Review, xiii., p. 453.

Sex.	Age.	Variety of Rheumatism, and Joints affected.	Duration of Disease previous to use of Aconite.	Duration of Treatment.	Remarks.
Male*.....	50	Rheumatic fever; left wrist and right shoulder,	2 days,	2 days,	No stiffness of joints left, and no disease of heart mentioned.
Female*...	52	Rheumatic fever; left shoulder,	21 days,	2 days,	
Male*.....	30	Rheumatic fever; ankles and knees,	10 days,	4 days,	
Female*...	30	Rheumatic fever, affecting nearly every joint in the body,	9 days,	7 days,	Stiffness remained in smaller articulations. No disease of heart.
Male*.....	30	Capsular rheumatism of right knee, with pains in the loins and shoulders,	6 weeks,	7 days,	Synovial effusion not entirely removed for some time. No disease of heart.
Female*...	59	Rheumatic fever, affecting all joints,	3 days,	10 days,	Slight stiffness remained in articulations of hand. No disease of heart.
Male†.....	54	Rheumatic fever,	11 days,	8 days,	No disease of heart mentioned.
Male.....	40	Rheumatic fever, affecting all the joints of the left side,	7 days,	5 days,	Cardiac disease was present previous to the use of aconite. It was improved.
Male.....	19	Rheumatic fever; shoulder, knee, and ankle joints,	28 days,	8 days,	No stiffness of joints remained.
Female.....	22	Rheumatic fever; knees, ankles, and right wrist,	21 days,	4 days,	
Female.....	20	Rheumatic fever; knee, ankle, wrist, and finger joints,	5 days,	2 days,	
Female.....	20	Rheumatic fever; ankles, elbows, and wrists,	3 days,	9 days,	
Male.....	...	Rheumatic fever,	16 days,	4 days,	
Male.....	31	Rheumatic fever; ankle, knee, and hip-joints,	9 days,	4 days,	
Male.....	28	Rheumatic fever; knee and ankle-joints, with left elbow,	17 days,	8 days,	In all these cases there was no affection of the heart; and in the greater number very slight stiffness of the joints was left.
Male.....	43	Rheumatic fever; joints of upper extremities chiefly,	.....	4 days,	
Female.....	20	Rheumatic fever; wrist and elbow on left side, with right ankle,	9 days,	3 days,	
Female.....	23	Rheumatic fever; knees chiefly, but ankles also affected,	20 days,	4 days,	
Male.....	18	Rheumatic fever; knee and ankle-joints,	8 days,	7 days,	
Female.....	24	Rheumatic fever; joints of right superior extremity,	.....	10 days,	
Male.....	29	Synovial rheumatism; knees, ankles, and wrists,	14 days,	9 days,	Slight swelling, with pain and stiffness on motion, remained for some time.
Male.....	47	Synovial rheumatism; knees,	9 days,	17 days,	No cardiac affection.

* Dr Lombard, in *Gazette Médicale de Paris*, 1835, † M. Chandru, in *Lançette Française*, November 1835.

tage of not increasing the liability to extension of the disease to the membranes of the heart. Indeed, it seems rather to protect the patient from that dangerous complication.

"It may be thought that as aconite weakens the heart, it is probable that it will predispose that organ to suffer in the same way as blood-letting; but this distinction must be borne in mind, that aconite acts as a pure sedative to the vascular and nervous systems, whereas bloodletting—although it produces a similar action when practised to a moderate extent,—when performed largely and repeatedly, has a *peculiar* effect in increasing the irritability of the heart. In a strong and healthy subject, with high inflammatory fever, a free bloodletting practised at the outset, will not only be of service, in affording more rapid relief to the patient's sufferings, but will place his system in a more favourable condition for the action of aconite, which, if *properly administered*, will prevent reaction, and remove the necessity of abstracting more blood.

"Should *more extensive* trials confirm the conclusions drawn from the limited data here offered, its great superiority over the ordinary modes of treatment will be undeniable. It is true that opium is not open to the objection of increasing the tendency to cardiac affection, but while its stimulant action on the vascular system would induce us, *a priori*, in the treatment of a disease marked by great excitement of that system, to give the preference to aconite, which from the first exerts a depressing effect upon it, actual observation, as far as it has yet been carried, leads to the same conclusion. Thus the painful symptoms are alleviated at an earlier stage of the disease, under the exhibition of aconite, than of opium, while the final cure is more rapidly effected; the shortest average duration of treatment by opium, viz., that furnished by Dr Corrigan of Dublin, being several days longer than that given in the table. Nor must it be forgotten, that the constipation produced by the opium has frequently appeared to protract the disease.

"In all the cases which I have treated with aconite, the convalescence was extremely short, and there was much less stiffness of the joints than usually remains after the ordinary modes of treatment.

"Aconite seems equally valuable in rheumatic fever, and in acute synovial rheumatism. In the latter disease, Dr Lombard has found it to contribute powerfully to the absorption of the fluid effused into the joints. Friction of the affected joints with the tincture, also assists materially in effecting the same object, as well as in relieving the pain.

"Dr Lombard[1] is of opinion, that aconite acts in acute rheumatism as a specific. I am inclined, however, to refer the good effects which follow its use entirely to its great power as a sedative of the nervous and vascular systems; or, in other words, to its properties as an *anodyne* and *antiphlogistic*. I do so, because I have never seen much benefit result from its administration, unless when given to an extent sufficient to develope its physiological action in considerable intensity.

"*Chronic Rheumatism.*—Aconite may be used both internally and externally in this disease. The internal administration seems to be preferable, in what has been termed the active chronic rheumatism; that variety which is, perhaps, properly speaking, only a very mild form of the acute rheumatism, being attended with some heat and swelling of the part affected, and slight constitutional disturbance. On the other hand, I would recommend the external application of the tincture in what is termed the passive chronic rheumatism, 'characterised rather by coldness and stiffness of the painful joints, with entire absence of constitutional fever.' In every case, however, should the mode of treatment adopted fail to afford relief, the other should be had recourse to; while it is frequently of service to combine the internal and external use of the remedy.

"From the many opportunities I have had of testing its merits, in every form of chronic rheumatism, I can speak very confidently of its value, having found it efficacious in the great majority of cases. It possesses the great negative advantage of not—like most remedies for the same disease—weakening the

[1] Gazette Médicale de Paris, 1835.

strength and impairing the constitution of the patient. In one case of chronic rheumatism of the fingers, which occurred to myself, as well as in another in the hospital practice of Dr Craigie, little more than temporary relief was obtained." Pp. 69, 74.

Administration of Aconite.—The alcoholic tincture of the root prepared according to the following formula is the best preparation of the drug for internal administration. It may be given simply with water, or it may be prescribed along with antimony, opium, or other remedies.

"Tinctura Aconiti.

"Take of root of A. napellus, carefully dried, and finely powdered, sixteen ounces troy; rectified-spirit, sixteen fluid ounces; macerate for four days; then pack into percolator; add rectified spirit until twenty-four ounces of tincture are obtained.

"It is beautifully transparent, of the colour of sherry wine, and the taste is slightly bitter." P. 80.

"As an *anodyne*, *anti-neuralgic*, and *calmative*, five minims ought to be given at first, three times daily, to be increased daily to the extent of one minim each dose, until the physiological effects described under the second degree of operation have been produced.

"As an *antiphlogistic*, five minims ought to be given at first, and repeated in four hours; by which means the second degree of operation will, in all likelihood, have been induced. In order to sustain the sedative action thus developed, two and a-half minims are to be given every three or four hours, or less frequently, according to the effect produced.

"Where this mode of administration is adopted, it is *absolutely necessary* that the patient should be seen, and his pulse examined, before the exhibition of each dose. When this cannot be done, the remedy may be given in the manner pointed out for its use as an anodyne and calmative.

"The *best method* of administering the remedy in *diseases of the heart*, is to give it in smaller doses than those recommended for its use as an anodyne, but more frequently repeated, as three or four minims five times daily.

"Sickness may be avoided or checked by an effervescing draught, administered with, or immediately after, the dose." Pp. 81, 82.

"*External Use.*—The aconitina may be applied externally, either in the form of solution in alcohol, in the proportion of one or more grains to the drachm, or of ointment made in the following manner:—

R. Aconitinæ, . gr. xvi.
Spir. Rectif. . m. xvi., Tere optime.
Deinde adde Axungiæ, ℥i, ut fiat unguentum.

If, as occasionally happens, this ointment, after two or three applications, fail to produce its ordinary effects, the proportion of aconitina must be increased to three, four, or even eight, grains to the drachm. It is much to be regretted that the difficulty of preparing the alkaloid, and its consequent high price, should prevent its more general use. A preparation of inferior quality, or, as is frequently the case, totally inert, is very commonly substituted for it in the shops—a circumstance which fully accounts for the low estimation in which it is held by many who profess to have tried it.

"The tincture, however, will be found an excellent substitute. One or more drachms of it are to be rubbed over the affected part three times daily, the friction being continued at each time for a quarter of an hour, or, indeed, until the topical effects of the drug are fully developed.

"It is hardly necessary to add, that, when there is any abrasion of the skin, the external application of either of these preparations may be attended with danger." Pp. 82, 83.

This last remark is a most necessary caution.

The length of our extracts sufficiently indicates the great importance which we attach to the work of Dr Fleming; but if a farther testimony be required, we have no hesitation in saying, that we regard it as one of the most important

contributions which have recently been made to our knowledge of therapeutic agents. Those who are now using, or have it in contemplation to employ the remedy, ought to study for themselves the experiments and cases narrated by the author, as well as the deductions which he makes from them. The book—were it only from the great mass of new facts which it contains—must, in the mean time, be regarded as the practitioner's best guide to the therapeutic use of Aconite. The physiological portion is very complete; and the therapeutic details are much more perfect than could have been anticipated in the circumstances. We only wish that the valuable information which Dr Fleming supplies, had been gained with less tampering with human life.

Practical Remarks on some Exhausting Diseases; particularly those Incident to Women. By SIR JAMES EYRE, M.D., *Physician at St George's and at St James's Dispensary.* 12mo, pp. 75. London: 1845.

TWELVE pages of our common type would take in every word of Sir James Eyre's "Practical Remarks;" and the substance of them can easily be given in as many sentences. When we see a short paper, such as that now before us, paraded, with an attractive title, dressed as a book,—elegantly bound, and beautifully printed,—we instinctively begin to suspect, that it has been got up rather to lure patients, than instruct practitioners. Whatever be an author's *object* in sending forth a few cases and paragraphs in an expensive book-garb, rather than in the more diffusible form of a communication to a medical journal, the *effect* undoubtedly is, to prevent their being seen by any professional man, except those to whom the author sends his presentation copies. We think, therefore, that Sir James Eyre has erred—we hope inadvertently,—in bringing forth his remarks in so costly a form; at least if he wished them to be read by his brethren, and regarded in any other light than that of an advertisement.

The aim of Sir James seems to be, to make known a fact, which is, we believe, generally admitted, that oxide of silver ought not to be given in large quantities;[1] and that, according to his experience, when administered in half-grain doses thrice daily, it will prove more effectual than any medicine which has yet been employed "in the treatment of gastrodynia, pyrosis, hematemesis, hemoptysis, and menorrhagia." He believes that it will also "be found of infinite benefit in restraining, when absolutely necessary, hemorrhage proceeding from the intestinal canal, obstinate chronic diarrhœa, colliquative perspirations, leuchorrœa, and other maladies, in the treatment of which," he is "at the present time extensively testing its efficacy."

Sir James has not always reported his cases in a satisfactory way: many of them are useless, from their extreme meagreness. Still, we think, that along with the statements of other recent writers on the same subject, they warrant a trial being made of the oxide of silver, when other remedies have failed.

In conclusion, we may remind our readers, that the oxide is believed by many not to cause that blueness of the skin which renders the nitrate so objectionable a remedy. It appears, however, that even the oxide—though not so readily as the nitrate—does induce that peculiar discoloration adverted to. Sir James notices a case in which this was caused by the remedy, after it had been employed for many months; and in the *Medical Gazette* for the 16th of May, there is another similar example recorded.

[1] The dose recommended by some is gr.vj; but that advised by Dr Neligan is gr.ss to gr.j. Vide his *Medicines, their Uses, &c.*, p. 334. Dublin: 1844.

Lectures on Subjects connected with Clinical Medicine, comprising Diseases of the Heart. By P. M. LATHAM, M.D., *Physician Extraordinary to the Queen, and late Physician to St Bartholomew's Hospital.* Vol. i. 12mo. pp. 374. London: 1845.

WE have just read enough of this book to perceive, that it demands not a cursory perusal, but a careful study. It is eminently practical and suggestive; and when completed, which it will be by the publication of the second volume in October, it will unquestionably form one of our standard medical treatises.

"Mine," says the author, "is a limited purpose. It is to regard the diseases of the heart only in one point of view, *i. e.* as they appear in the living man. But this one point of view includes the several objects of their clinical diagnosis, their clinical history, and their medical treatment. These are what I seek especially to illustrate, while I *presume* an acquaintance with other parts of the subject, and shall only allude to them incidentally as I go along."—*Preface.*

Reserving our examination of the work for another occasion, we quote the following very interesting

"*Statistical facts, with regard to the Frequency of Cardiac and Pulmonary Affections in cases of Acute Rheumatism:*—

"Between the years 1836 and 1840, both inclusive, there occurred under the author's care, at St Bartholomew's Hospital, 136 cases of acute rheumatism. Of these 136 patients, 75 were males, and 61 were females.

"Of the 75 males, the heart was affected in 47, and unaffected in 28.

"Of the 47, the seat of the disease was the endocardium alone in 30; the pericardium alone in 3; and both the endocardium and pericardium in 7. And, while the heart was undoubtedly affected in 7 others, the exact seat of its disease was uncertain.

"Of the whole number of males in whom the heart was thus variously affected, 3 died. And in these 3 the pericardium and the endocardium were both inflamed.

"Of the 61 females the heart was affected in 43, and unaffected in 18.

"Of the 43 the seat of disease was the endocardium alone in 33; the pericardium alone in 4; and both endocardium and pericardium in 4; and the exact seat of the cardiac disease was doubtful in 2.

"Of the whole number of females in whom the heart was thus variously affected none died.

"The account of males and females taken together will stand thus:

Cases of acute rheumatism,	136
Heart exempt in	46
Heart affected in	90
Seat of disease in the heart:—	
Endocardium alone in	63
Pericardium alone in	7
Endocardium and pericardium in	11
Doubtful in	9

"Deaths 3. In all of which both endocardium and pericardium were affected." Pp. 144, 145.

But, of the 63 patients who suffered from endocarditis, and who became convalescent, auscultation still told that, after the inflammation had ceased, the membrane recovered its complete integrity of structure only in 17, and that it remained permanently injured in 46. Of the 30 males, the endocardial murmur ceased entirely only in eight, while it remained, as long as they continued under observation, in 22. And of the 33 females, it ceased entirely only in 9; while it remained in 24.

In the 136 cases of acute rheumatism which form the basis of the inquiry, the heart was inflamed in two-thirds of the whole, and the lungs only in about 1 in five. In these cases, the inflammation of the lungs was severe.

The 24 cases were 4 of bronchitis, 18 of pneumonia, (in 9 affecting both lungs) and 2 of pleurisy. Out of these 24 cases 4 are marked as fatal.

Of the 46 cases of acute rheumatism in which the heart was unaffected, the lungs were uninflamed in 6, in the proportion of 1 to 9. But of the 90 cases in which the heart was inflamed, the lungs were also inflamed in 19; or in the proportion of more than 1 in 5.

Of the 63 cases of endocarditis the lungs were inflamed in 7; or in the proportion of 1 to 9.

Of the 7 cases of pericarditis the lungs were inflamed in 4; or in the proportion of more than one half.

Of the 11 cases of endocarditis and pericarditis occurring simultaneously, the lungs were inflamed in 8, or in more than two-thirds.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

On Mounting Preparations under Thin Glass. By Dr J. W. Griffith.

The preparations which I have found answer permanently are—"1*st*, A solution of Canada balsam in ether or oil of turpentine, evaporated to just such a consistence as is sufficient to allow of its being applied with a camel hair pencil. 2*d*, A mixture of gold size and white lead; this used as the ordinary gold size and lamp black has remained permanent; a little red lead mixed in with it, makes it dry quicker and harder. 3*d*, A mixture of red lead and gold size used immediately, dries very rapidly, and becomes very hard. 4*th*, A mixture of fine lamp black and white hard varnish laid on immediately forms a very good compound."—*Tulk and Henfrey's Anatomical Manipulation*, p. 408. London: 1844.

Antrum Tubæ or Rœderer. By Dr Ritchie, Glasgow.

This modification of the structure of the curved and sacculated distal extremity of the Fallopian tube, which was first described by Rœderer, and afterwards by Montgomery, has been suggested by Dr Ritchie to be pathological. He says, "In occasional instances, both of women who have not borne children, and of such as have been mothers, one, and sometimes two portions of this vesical-like process project from the line of the tube, in the form of well-defined chambers or recesses. These affect a globular shape externally, and are sometimes so thin as to be translucent, while, internally, the muscular fibrils of the tube are gathered into bundles around the neck or orifice of the little chamber,—the whole forming a structure not unlike a miniature hernial sac, and communicating the impression, that the muscular layer of the canal had gradually given way under some mechanical force, such as that of the tube frequently and strongly compressed,—distending the mucous lining, and separating the muscular fibres, till

at length the inner and outer, or peritoneal, coats were protruded beyond the muscular layer, after the manner of a direct ventral hernia, the fleshy fibrils of the latter being found arranged around its neck.—*London Medical Gazette*, May 9, 1845.

PRACTICE OF MEDICINE AND PATHOLOGY.

On the Alleged Action of Sulphate of Quinine on the Spleen; and upon a New Mode of examining this Organ.

Two years ago, in a memoir submitted to the Academy of Sciences, M. Piorry advanced the opinion, that sulphate of quinine, dissolved in a small quantity of sulphuric acid, and administered in moderate doses, acted so rapidly upon the spleen, that in the course of 40 *seconds* a notable diminution in the size of this organ took place. Since then, M. P. has repeated the statement, and at different times has exhibited the experiment in the wards of his hospital, in so short a time, as to convey to the mind an idea of illusion, (prestige), but not conviction. M. Gouraud having repeated the experiment, states, that in his hands it succeeded equally well, finding, that after the administration of a solution of sulphate of quinine, the region of the spleen acquires, in even less time than 40 seconds, a well marked clearness on percussion. "So much so," he says, "that the first idea that occurs to the mind is, that a considerable diminution in the size of the spleen has taken place." Doubts, however, arising in the mind of M. Gouraud, not as to the reality of the fact, but as to its explanation, he inquired, if the modification thus produced in the state of the parts, was really owing to a diminution in the size of the spleen, or not rather to dilatation of the stomach, produced by the sudden development or displacement of gaseous fluids. He tested the matter by experiment, and found, that on varying the fluid administered, using the same quantity of distilled water, with a few drops of sulphuric acid, without sulphate of quinine; then distilled water alone, lemonade, wine and water, or a common tisane, the same result, namely, disappearance of the splenic dulness, was obtained, as after the exhibition of the sulphate of quinine.

"The correct conclusion," says M. G., "from these numerous facts is, that the ingestion into the stomach of a small quantity of fluid suffices to produce a development of gas so considerable, as to give a sonorousness almost tympanitic to the region of the spleen in 40 *seconds, or even less.*"

Another method of ascertaining the accuracy of this conclusion, is auscultation. If we apply the ear over the dull region of the spleen, at the instant a patient is swallowing a mouthful of water, we shall be struck with the loud sonorous gurgling produced by the fluid falling into the empty stomach, and can naturally explain the great sonorousness almost immediately afterwards produced in the gastro-splenic region.

M. Gouraud does not confine himself to this first result, but generalising his observation, applies it not only to the hypertrophied spleen in fever, but also to the spleen in the natural state,—in this, following M. Piorry, who, in his memoir, states, "*it is no less extraordinary, that the spleen when healthy diminishes as rapidly under the sulphate of quinine, as it does when in a state of disease.*" This is so extraordinary a fact, that one must possess the conviction peculiar to M. Piorry, not to perceive, that what he wished to establish in his memoir, as to the properties of the sulphate of quinine, is, by it, completely and definitely overturned. Considering that in a certain class of subjects, in whom the spleen is healthy, the gastro-splenic region, nevertheless, presents a dulness sufficiently great to lead at first to the idea, that there is a universal development of the spleen, and having put forth the opinion that the dulness probably depends on the empty state of the

stomach and transverse colon, whose walls lie in apposition, M. Gouraud asks, in what class of subjects is it, that this purely physiological phenomenon is perceived? Inquire, and you will find, it is in those who have not recently drank. In what class is the phenomenon absent? In those who, within the last quarter or half an hour, have swallowed some liquid." It is impossible not to admit the exactness of the facts and the reasoning employed, and from these follow results equally advantageous to science; first, the discovery of an error; and next, the acquisition of a fact, the importance of which, M. G. has not sufficiently insisted on, viz. the production and development of gas at the moment a fluid is taken into the stomach. We entirely coincide with M. Gouraud, in the following conclusion, viz. "That in order to decide with certainty that gastro-splenic dulness is dependant on hypertrophy of the spleen, the degree of this dulness in the normal state, and under different physiological conditions, independent of disease, must be first ascertained. Before terminating his letter, the author points out one mode which has appeared of some value in appreciating the size of the spleen under certain circumstances, and which has not been alluded to in the article "Exploration of the Spleen," in the *Traité de Séméiologie;*—and that is to cause the patient to make a violent expiratory effort with the abdominal muscles. By the contraction of the diaphragm, all the organs below it are pushed downwards; and the spleen in particular, which descends more than an inch, and becomes quite distinct to the touch.

Having thus stated, as clearly and shortly as possible, the facts brought out in the letter of M. Gouraud, we ought also, perhaps, to give the answer of M. Piorry, and the reply by M. Gouraud; but the task is not an easy one; suffice it to say, M. Piorry has repeated the experiments with most fluids, and has not attained the results related by his opponent; he has also repeated those with a solution of quinine, and obtained the same effects as formerly. M. Gouraud has also repeated these, and again arrived at the conclusions above detailed; he concludes the discussion with these words; "I continue to maintain the general fact which I have announced, viz. that the disappearance of dulness in the splenic region appears to be dependant on the ingestion of fluid, rather than on the action of sulphate of quinine." Between opinions so opposite, and facts so directly contradictory, it is impossible to decide; the determination lies in an appeal to new facts, observed and reported by those who are not personally interested in the question. Without leaning to one more than the other, we conclude with the words of M. Gouraud: "Practitioners, and those who have clinical opportunities, must decide the question; as for me, I will range myself on the side of truth, be it for or against me, whenever that truth is demonstrated; but it must be first demonstrated."—*Journal des Connaissances Médico-Chirurgicales*, as quoted in *Gazette Médicale*, 1st March 1845.

Cases and Considerations, illustrating the Therapeutic uses of the Ioduret of Potassium, derived from the Clinique of M. Lisfranc, at La Pitie. Compiled by M. Laroche, Interne of that Hospital.

Pure Iodine or its tincture speedily irritates the intestinal canal; when administered incautiously, it is apt to induce poisonous effects.

The Ioduret of Potassium, however, possesses all the medicinal properties of pure iodine, without any of its inconveniences; to prove this, is the object of the present article. We are quite aware, that in large doses it acts as a violent poison; but when given in small quantities, it is not only innocuous, but one of the most precious of therapeutic agents. The application of ioduret of potassium in scrofulous diseases, has been fully discussed by MM. Coindet and Lugol. Biett has administered it with the greatest success in tuberculous diseases. MM. Puche and Ricord, have lately employed it with advantage in syphilis of long standing; more especially in combating tertiary symptoms. At the present time, M. Lisfranc obtains surprising effects by its use, in many surgical affections, such as white swellings, necroses, ulcers of the legs, congestions of the breast and testicle, chronic syphilis, and diseases of the skin. It

is, however, sufficient, in order to establish the importance of the subject, and the services that this therapeutic agent may render to humanity, to mention that there are at present in the wards of La Pitié, seven patients, all of whom were condemned by skilful practitioners, to undergo amputation of the leg or thigh, and who, having been treated by ioduret of potassium, are either now cured, or in such a state of improvement, as to leave no doubt as to their ultimate recovery.

1. *Manner of administation.* When a patient is to be treated by ioduret of potassium, it is indispensable to test his tolerance for it; as one individual may at first be able to take four grammes a-day, whilst another would suffer from one or two decigrammes. M. Lisfranc mentions, that, wishing to administer it to a lady of highly sanguineous temperament, who was suffering from congestion of the uterus, he prescribed two decigrammes, to be taken in two doses, one in the morning, fasting; and the other in the evening, four hours before her last meal. Although the quantity was so small, yet after the last dose had been administered, unquestionable symptoms of poisoning appeared. In another similar case, he prescribed only one decigramme, also in two doses, which were to be taken at the same hours, and in the same manner as in the preceeding case: intoxication ensued. At present, M. Lisfranc administers ioduret of potassium by itself; but formerly he used to add five or ten centigrammes of pure iodine, until he remarked that the frequent intestinal irritation felt by the patient, was always to be traced to that addition; and, besides, the medicine so prepared presented no real advantage over ioduret of potassium given alone; he has therefore altogether relinquished its use, and can now continue the treatment without being afraid of seeing unpleasant effects manifested. The following is the formula adopted by M. Lisfranc:—

Infusion of lime leaves,	150 grammes.
Syrup of bitter orange peel,	30 grammes.
Ioduret of potassium,	1 gramme.

One table-spoonful must be taken morning and night, in a glass of sugar and water, decoction of saponaria, or infusion of hops. In the morning, it should be taken before breakfast; and at night, four hours before the last meal. The above quantity is in this way consumed in about eight days; at the second preparing of it, five decigrammes of ioduret of potassium should be added; at the third time, two grammes should be used; and so on increasing it in this proportion, every week, until ten, twelve, fifteen, or even twenty grammes, is at last combined with the original vehicle. M. Lisfranc scarcely ever exceeds those limits. It will thus be seen, that the patient at first takes only about fifteen centigrammes of ioduret each day; so that, if when taken in so small a dose, that medicine can occasion any bad effects, they will be very slight, and will prove most satisfactorily the susceptibility of his constitution; generally speaking, however, no untoward consequences ensue. If they are absent, the patient should take the medicine regularly, until there are contra-indications.

2. *Effects upon the System.*—Under the influence of ioduret of potassium, the general tone of the health is usually improved. This is especially manifest in lymphatic subjects, who have for some time been afflicted with necroses, accompanied by fistulæ, with great suppuration; or who are the subjects of marasmus in connection with advanced white swelling. It is by no means rare for those classes of patients, after the first week of this treatment, to begin to shake off their languor: their pale, discoloured skin assumes a natural hue, and their faces become less cadaverous, showing signs, as it were, of a new existence. A remarkable case will support this proposition:—A man, 48 years of age, a locksmith by trade, (occupying No. 3 in the ward St Antoine,) received, a year ago, a blow upon the lower part of the thigh; this was followed by an abscess, which was opened, and a necrosis declared itself on the lower part of the femur, nearly the entire circumference of which was denuded. There were five or six fistulous passages at about the same point, from which a quarter of a gallon of pus was drawn in twenty-four hours. In one of the Paris hospitals, it was thought that

amputation of the thigh would become necessary; but the patient, not being willing to undergo that operation, returned home, and some days after was admitted into La Pitié. On his entry, besides being afflicted as above mentioned, this man was in a state of marasmus and emaciation difficult to describe. The organic decay of the man was such as to render the operation impracticable, even if in other respects it had appeared proper. He vomited all his food, even the thinnest broths, and could take nothing save a few spoonfuls of weak beef-tea. Small doses of ioduret of potassium were administered, and he was soon after enabled to sustain a little substantial nourishment; assimilation was performed; and in all probability he will soon be able to support the amputation of his thigh, should M. Lisfranc be obliged to proceed to that extremity. It is thus evident—and this is an observation of daily occurrence—that patients in general grow stronger under the influence of ioduret of potassium.

Though ioduret of potassium possesses immense *advantages*, it is not without some slight *inconveniences*.

Inconveniences.—The bitter taste, though not complained of perhaps by hospital patients, is much felt by females of the better classes. In the morning, on first awakening, the mucous lining of the mouth is dry, and for some days there is often an astringent metallic taste, excessively disagreeable. This can usually be got rid of, by cleaning the teeth and gargling the mouth with fresh water. There is, however, another inconvenience of a more serious character, viz., a cutaneous eruption, which is sometimes brought on by the use of ioduret of potassium; but this is less common from it, than from pure iodine. When these eruptions make their appearance, the patient is disquieted: they are generally of the nature of sharp urticaria. If the medicine be continued, they assume the character of eczema and prurigo. In some cases, especially when the eruption appears upon the face, a congestion of the cellular tissue, beneath the skin, is added to the other symptoms, giving rise to slight excrescences, having the appearance of tubercles. These phenomena, if the principal disease be serious, should not lead to the discontinuance of the medicine; but if the affection for which it is being given be slight, it would be as well to suspend the use of the drug for a short time; in a few days, the eruption will disappear, when the treatment should be resumed. These cutaneous affections leave no trace of their existence after them. Mr Wallace affirms that he has found a salivation analogous to mercurial ptyalism, and sharp attacks of pleurisy, follow the use of this medicine. We ought, however, to mention, that out of several hundred cases, which have fallen under our observation, whilst attending the wards of M. Lisfranc, no such signs have ever presented themselves; and it is well known, that Bréra cured, with the aid of iodine or ioduret of potassium, the salivation that mercurial preparations had produced. It has also been said, that the use of ioduret of potassium has had the effect of excessively augmenting the menstrual flux; but this appears to be more a property of pure iodine, which has, we may state, been employed with some success in amenorrhœa.

Advantages.—It will be remarked with surprise, that this medicine, when administered for chronic syphilis, syphilitic necroses, and exostoses, (diseases in which it has worked wonders), acts in spite of the irregularity of the system, and the abuse of alcohol, which are so prejudicial in ordinary treatment. The pains of the bones are much alleviated. In many cases, they totally cease within two or three days. A very curious

CASE affords an apposite illustration. There is at present, in ward St Antoine, No. 14, at La Pitié, an old Pole, who was admitted there whilst suffering from a most intense constitutional pox. He was attacked by a necrosis of nearly all the large bones—of the humerus, the radius, the ulna, the femur, the tibia, and the fibula—accompanied with ulcerations of the throat and palate, and horrible pains of the bones. This poor man could not sleep at nights, and during the day could scarcely change his position, so as to admit the dressing of his wounds. The potion of hydriodate was administered, and forthwith his nocturnal pains left him; at present he is in a fair way of recovery, but he has been treated for no less than two years.

Every one knows the tendency which tertiary syphilitic diseases have to settle upon the rectum, where they produce all the symptoms of cancer. This is so true, that M. Lisfranc, who has paid particular attention to that class of diseases, and who, in consequence, receives a great number into his ward, constantly commences with the anti-syphilitic treatment, however strong the evidence of existing cancer may appear. This treatment is based upon ioduret of potassium, aided of course by all the auxiliaries that the circumstances may require, such as compression, &c. Eight times out of ten, M. Lisfranc has, in this manner, cured these pretended cancers. The first case to which we paid attention furnishes a very interesting example. It will be seen that nothing was here wanting to diagnosticate a cancer. The pretended cancer was, however, too high to allow it to be cut, since the forefinger could not reach to its upper limits. The patient is now cured.

Case. *Disease of the Rectum, having the Appearance of Cancer.*—Petit Louis Honoré, born at Plagoy in the department of Oise, was admitted to St Louis on the 1st October 1842. It appeared that two years before, he had had an abscess on the borders of the anus, which had burst spontaneously; some emollients had been applied, and as the centre did not heal, a fistula, to which the patient paid no attention, was the result. He still continued to attend to his trade, that of a carpenter; two months afterwards a second abscess broke out, which, like the first, opened spontaneously; this he also neglected. Around the two openings, which remained fistulous, there rose a large pimple, which, in a few days, whitened at the head, and some drops of pus escaped. One year after, this man, being attacked by an intermittent fever, which could not be cured at home, came to Paris, and was received into the hospital of La Pitié. For six months he was properly treated, and it was not until that time had elapsed that his fever was cured by the aid of sulphate of quinine. During this treatment, the eruption still continued to appear, the fistula remained, and violent pains began to manifest themselves. He then applied for advice of M. Lisfranc; and was transferred from the medical to the surgical wards. His complexion was pale and sallow; he was exceedingly emaciated, and suffering from great numbness throughout the pelvis, accompanied by shooting pains, as though, said he, long needles were being thrust into the arms; his stools were painful and difficult, and a sort of ichorous pus, most repulsively fetid, escaped from the lower part of the rectum. We perceived, on feeling that part, that the intestine had diminished in size, and was filled with indurations and spongy masses, whence, whenever they were touched, a great quantity of blood escaped. The seat of the disease was situated very high; its limits being beyond the reach of the fore-finger. When walking, he felt, he said, a weight upon the perineum, and (according to his own expressions,) it appeared as if the anus were about to detach itself. Being interrogated as to whether he had ever contracted the venereal disease, he admitted having had gonorrhœa, when 27 years of age, but never buboes nor chancres. The running lasted about eight months. The extent of the disease excluded every idea of operating. M. Lisfranc, not being quite certain of the veracity of the patient's statement, submitted him (as he did every case of the kind) to an anti-syphilitic treatment, combined with the use of ioduret of potassium. Two grammes *per diem* were prescribed; and at the same time, the parts surrounding the anus were daily rubbed with an ointment of the ioduret of lead. Light diet, and absolute repose were also enjoined. After two months, the pains, which had prevented the patient from sleeping, had nearly disappeared; the fistulæ of the old abscesses were healed; the dose was then raised to three grammes. In about four months, a fresh abscess began to show itself; this was opened, and although the opening remained fistulous, he was entirely free from pain; the stercoraceous matter traversed the intestines without producing uneasiness; in short, a great change for the better had in all respects taken place. Compression was produced by the help of a thick plug covered with cerate, and introduced into the rectum; six grammes of ioduret of potassium were administered each day. On the 8th of June 1843, this patient was almost cured, the inner surface of the

intestines had regained its wonted pliability and softness; and only one little fistula remained, which scarcely yielded a gramme of pus during the whole day. The internal indurations and vegetations had disappeared.

CASE.—Last year, a patient who was in a parallel situation, and whose case presented the same phenomena, was cured by an exactly similar treatment. He afterwards sunk under an attack of pneumonia, and on opening his body, we found that the intestine was then quite healed, the mucous membrane having still the signs of recent cicatrisation. The above facts are of deep importance, for had the surgeons imagined that he was afflicted with cancer, they might have abandoned him to his fate; and had they done so, he would in all probability have died. The great number of patients admitted into the hospitals in a similar condition gives great importance to these remarks.

We believe that we are considerably within the mark when we say, that ten times out of twelve the ravages of Necrosis may be arrested by the use of ioduret of potassium. The following cases, chosen from a multitude of the same sort in our possession, will prove the accuracy of this assertion.

CASE. *Necrosis of the Femur—Refusal to submit to Amputation—Cure without Operation.*—A. H., 18 years of age, a native of Paris, had a fall on the 1st of October 1841, from which there resulted a disease of the knee. It, having been badly treated, soon became chronic. The interior and lower part of the thigh became hard, and increased considerably in size. The patient applied to the Sisters of Mercy of St Thomas, who employed the actual cautery. During the six months he was under their care, no visible improvement took place. The ulceration was extensive, the knee-joint had lost all power of movement, and his leg was bent back upon the thigh. He was admitted into the surgical department of the hospital, and properly attended to, where he grew much better. Three portions of dead bone were extracted; but soon after he relapsed, and it was thought that amputation would be necessary. His relations, however, would not consent to it. This patient was admitted into La Pitié, on the 13th of August 1842. The following is a description of his state at that time. The lower part of his thigh had swollen to triple its natural size, and formed a mass in which the rising of the muscles could not be distinguished. A tumour formed by the enlarged femur occupied the same space. The knee-joint was free, and presented no alteration. The leg, however, was still bent back upon the thigh. The fistula which led to denuded bone yielded a vast quantity of reddish serosity. He suffered from shooting pains throughout the body, insomuch that he could move neither leg, thigh, nor foot, without bringing on the most excruciating agonies. The patient was very thin, and his general health was much decayed. For the first month, chlorinated injections were thrown into the fistula. The wound was covered with an emollient cataplasm, and the treatment by ioduret of potassium was then commenced. Two grammes in 180 grammes of infusion of lime-leaves were taken by table-spoonfuls, night and morning, in a glass of infusion of hops. His digestive organs felt no bad effects from this treatment, and the general tone was improved. Every fortnight the ioduret of potassium was increased by five decigrammes, till, in the month of January 1843, this young man took no less than four grammes *per diem*. The swelling of the soft parts first diminished; but the bony tumour continued the same. Once a-month a few leeches were applied; and the parts affected were rubbed with an ointment of the ioduret of lead. In the month of January 1843, a piece of dead bone was extracted; one month later a second, and then a third, and a fourth. The last was large and cylindrical, and seems to have formed the external table of the femur. From April the size of the femur diminished. By the 9th of June 1843, the fistula was healed, the leg perfectly straightened, and the thigh presented its original size.

CASE. *Necrosis of the Tibia—Refusal to submit to Amputation—Cure without Operation.*—Landry Oscar, born at Clermont, in the department of Puy-de-Dôme, was admitted, on the 4th November 1842, into the Hospital of St Louis. He was 17 years of age. Towards the end of August 1841, he perceived a little tumour, containing a liquid, gradually growing upon his instep, till

it had attained the size of a pigeon's egg. At the same time the left leg grew very large; in a short time it was triple its original size. This patient suffered much pain, which was increased by empirical medicine. In this state he came to Paris; independently of the tumour just mentioned, there were two fistulæ on the lower part of the leg, in the direction of the tibia. Some days afterwards, six other fistulous passages burst, fully demonstrating that the tibia was entirely denuded. There was necrosis of the bone for the space of about five inches. This young man came to Paris, having been told by a surgeon that amputation of the leg was necessary. M. Lisfranc began by giving him two grammes of the ioduret, in 180 grammes of distilled water, emollient cataplasms were applied to his wounds, and afterwards a simple dressing. The quantity of potassium was augmented by degrees to 4 grammes *per diem*, and continued thus till the 25th May 1843, when it was stopped, in consequence of the patient being attacked by an excessively severe inflammation of the tonsils. There was, however, no farther need for it, as the patient was then completely cured. In this case, as in every other, the patient's general health was improved to an astonishing degree. The pains were arrested; the fistulous passages, after having given exit to two or three spiculæ of bone, were healed. His limb has now returned to its original state.

Case. *Necrosis of the Tibia—Refusal to submit to Amputation—Cure without Operation.*—Millon, (Pêné) 42 years of age, a commercial traveller, born at Nantes, was admitted in the month of July 1841, into the board of St Antoine; he was suffering from pleuro-pneumonia. Whilst in that hospital, a little tumour arose upon the left tibia; it was at first no larger than a lentil, but afterwards grew to the size of a bean; the limb then suddenly swelled greatly, and to what the patient averred was three times its ordinary bulk. This tumefaction was accompanied by violent pains, and the little tumour burst spontaneously. Although the information given by this patient was not very exact, we were led to believe that he had been treated by ioduret of potassium, but in greater doses than M. Lisfranc usually employs. His cure was almost completed when he was attacked by a spitting of blood, which necessitated the cessation of the use of the ioduret. Believing himself to be cured, he quitted the hospital, and continued his usual avocations. During six days he was a great deal on foot; a large abscess then declared itself upon the upper part of his leg; he was admitted into the surgical department of the hospital, where his abscess was opened. That part of his leg where the purulent matter was stationed again swelled to the size it had previously presented. The skin was in many parts flayed; the tibia, both on the internal face and the top, was denuded for about an inch and a-half round. There was great suppuration. The case became so serious, that amputation of the thigh was proposed; the patient, however, refused to submit to it, and begged to be put under the care of M. Lisfranc. He was then very thin, could not sleep at night, and could take no food. Two grammes of ioduret of potassium were at first prescribed, in 180 grammes of infusion of lime leaves, and an emollient cataplasm was applied to the wounds. This treatment was continued for a fortnight, and at first produced but little good; his general health then began to improve, his pains diminished, and he could take a little nourishment.

M. Lisfranc then made two counter-openings at the back of his leg, in order to hinder the pus from remaining stationary. At the end of one month the patient's health had wonderfully mended; he felt no pains, his limb was then rubbed with the ointment of ioduret of lead. In the month of March 1843, from causes altogether foreign to his disease, the ioduret of potassium was discontinued for some time. One month's suspension of it was considered sufficient; accordingly, in the month of April, he resumed his dose of four grammes *per diem*, of that medicine. The patient made rapid strides towards a perfect cure, and by the 28th July 1843, nothing remained save a slight and unimportant sore.

When the necrosis is extensive, and the tissues infiltrated with pus, it is necessary to make a counter-opening. If the soft parts in the neighbourhood are engaged, a variety of means are required to promote resolution; but the basis

of all the treatment consists in the internal administration of ioduret of potassium.

CASE. *White Swelling of the Knee—Serious complication—Refusal to submit to Amputation—Cure without operation.*—In this case the white swelling was very advanced; the knee was swollen to triple its natural size, forming a mass which completely hid the constituent parts of the articulation; the leg was slightly bent back upon the thigh; there was considerable pain. The patella was the only part that could be distinguished, and that was completely immoveable. The firm tumour was hard, and had the appearance of some fibrous body; it was oval, and prolonged towards the upper part. This tumour was situated near the anterior part of the tibio-tarsal articulation, and paralyzed the action of the foot. For the first week, two applications of thirty leeches each, and emollient cataplasms were prescribed. A fortnight afterwards, his pains were alleviated, and the articulation was no longer inflamed. Two grammes of ioduret of potassium were then administered, in the doses we have already several times mentioned. For a fortnight, it was the only medicine employed. The dose was gradually increased, according to the rule followed by M. Lisfranc. Both the knee-joints and the tumour were rubbed day and night with an ointment of the ioduret of lead. The pains disappeared; and compression was then added to the other remedies.

After two months of this treatment, the resolution began to take place: every eight days a few leeches were applied just above the tumours, in order to awaken vitality in those tissues. That treatment met with full success; and the patient will shortly be enabled to leave the hospital, completely cured.

M. Lisfranc has employed the ioduret of potassium, for the purpose of causing *certain ulcers of the leg* to cicatrize.

A case is quoted in which amputation was proposed, on account of a large chronic ulcer of the leg, but, in consequence of the patient not consenting, the treatment by ioduret of potassium was tried with success. Simple dressings were applied to the wound, and the ioduret was administered internally.

It appears that this medicine is esteemed at La Pitié as the most useful in all tumours, swelled testicles, tumours of the mamma, and congestions of the womb.—Abridged from the *Annales de Thérapeutique*, for December 1844.

TREATMENT OF SCABIES BY VERATRIA ALBA, (WHITE HELLEBORE.)

[The various ointments of sulphur used in Scabies have these objections—that though they generally cure the disease, they soil and stink the linen of the patient; and if employed too freely, they often induce tedious eczematous eruptions. It is often, therefore, most desirable to employ a substitute for sulphur in this class of cases.

The white hellebore is often efficacious. "As external applications," says Pereira, "the decoction and ointment are used in scabies (hence the Germans call the rhitzeme *kratzwurzel, i.e. itch-root,*) but their use is not quite free from danger." [2d ed. p. 955.] To abraded surfaces it should certainly not be applied; but where the skin is unbroken, and where sulphur is disliked, we would use, without apprehension, and with much hope of success, the following preparation, recommended in a recent number of the *Annales de Thérapeutique.*]

Powder of the root of white hellebore,—60 grammes.
Black soap,—from 25 to 30 grammes.
Hot water,—enough to reduce the whole to a convenient consistence.

"All parts of the body affected with the pustules are to be rubbed once a-day with this compound. After the 2d, 3d, or 4th friction, the parts which have been rubbed become red, and the patient complains of the heat caused by the ointment;—but the itching of the scabies has ceased. One or two simple baths, and a scrubbing with black soap, are then proper. If fresh pustules appear, they are to be treated in the same way. This remedy has no disagreeable smell: it cures quickly, and with certainty, if the precaution be taken, to change the body linen of the patient."

Hellebore, like sulphur and other itch-curing medicines, proves efficacious in virtue of its power of destroying the *acarus*.

Singular Case of Partial and Intermittent Spasmodic Contraction. By Dr Perrin of Bordeaux.

A man aged 48, who had suffered from articular rheumatism for many years, was seized, towards the end of June 1844, without any known cause, with an affection characterised by the following phenomena: Extreme lassitude, weariness in all the limbs, slight headach, no thirst, incomplete anorexia, intelligence entire, integrity of all the senses, and slight fever. The shivering at the commencement of the fever was very slight, and was soon followed by moderate heat, which continued to the end of the paroxysm. At the cessation of the attack, which took place after the lapse of eighteen or twenty hours, there was a very gentle moisture on the skin. Had it not been for the following complications, the feverish attack would have excited little attention. As soon as the fever manifested itself, the patient felt his left fore-arm become uncontrollably bent upon the arm, and then rested on the anterior surface of the thorax. The fore-arm was so firmly fixed, that no effort could extend it; the elbow-joint felt as if anchylosed. The powerful state of contraction of the muscles on the anterior surface of the arm could be felt; the tendinous portion of the biceps was extended over the articulation like a hard cord. The corresponding flexors of the fore-arm were also contracted, as indicated by the permanent state of flexion of the fingers, which slightly touched the palm of the hand. These partial convulsions, (to which Dance first directed attention, under the name of *intermittent tetanus*), were followed by other phenomena not less curious. The patient felt a painful sensation of pricking in the shoulder, elbow, wrist, and second joint of the middle finger, as well as in the metatarsal and tibio-femoral articulations of the lower extremity. The articulations soon became swollen, and fluctuation was quite distinct in the knee and elbow-joints, where the effusion of serum was enormous. The swelling and effusion completely disappeared in the course of two or three days. The state of contraction only remained during the access of the fever, and as it diminished, the patient recovered the use of his arm. The fever at first manifested itself under a weekly type, and appeared every Thursday and Friday evening. After the seventh attack, he was free of it for a time. It again recurred, however, in the course of six weeks, with all the former symptoms, but under a tertian type. It was at this period that Dr Perrin saw the patient—after two attacks. Without paying attention to the curious features of the case, he considered there was only one indication to fulfil, and accordingly prescribed quinine, combined with extract of belladonna. There was only one attack after the commencement of the treatment, and the cure continued. The patient, however, still suffers as formerly from his rheumatic pains, on which this intermittent affection became engrafted.—*Journal de Médecine et de Chirurgie*, for April 1845.

Experiments on the Inoculation of Syphilis from Man to the Lower Animals. By M. Cullevier. [Read to the Surgical Society of Paris.]

When M. Ausias-Turenne exhibited a monkey to this Society, with several ulcerations on its face, said to be syphilitic, and the result of inoculation with human chancrerous-matter, my first impression was one of great astonishment at the success of an experiment, which had hitherto failed in the hands of the most able and persevering. Our colleague, in order to explain his success, stated that the method pursued by him differed essentially from every one previously employed. According to him, two conditions concur in the production of a chancre; 1*stly*, The deposition and maintenance of the virus on the excoriated skin; 2*dly*, A certain state of irritation in the part where the virus has been deposited. In man, in consequence of the irritability with which he is endowed, the presence of the virus itself causes a sufficient irritation; in animals, on the other hand, it must not only be produced, but maintained. Starting from

this point of view, M. Ausias-Turenne introduced the chancrerous-matter into the monkey, either by means of a sore in which he had caused loss of substance, or by punctures with a lancet, carried deeper than is usually done in man. As soon as a scab formed in these artificial wounds, he removed it, and proceeded consecutively in this manner, till there ensued a round ulcer, with sharp edges, and foul base, covered with purulent matter. He sometimes even irritated them with the instrument itself.

I then stated to the Society, that I was struck with two things in the communication of M. A. T. *First*, With the appearance of the ulcers, and, *second*, With the manner in which they had been produced. As to their aspect, although there was something that might recall the appearance of a syphilitic chancre, such as its rounded form, the appearance of the edges and base, yet to the experienced eye, there was entirely wanting that solution of continuity, so difficult to describe, but so striking in appearance, produced by the inoculation of syphilitic matter, either accidentally or artificially; as to the manner in which these ulcers had been produced, it was in no way astonishing, that wounds irritated as these had been, should assume the aspect they had done; that I myself had produced in man, by means of caustic, and irritation from the commencement, lesions exactly similar to those exhibited; in fine, I pledged myself to produce similar lesions without having recourse to the introduction of any virulent principle.

I also stated, that from what I had seen personally of the inoculation of syphilis in the human subject, and the numerous observations related by authors, I was certain, that the increase of vital irritation said to be indispensable to infection, was in an infinity of cases by no means necessary; and the assertion, that, ere inoculation could occur, it was necessary that this lower irritability in the skin of animals should be raised, so to speak, to the height which it possesses in man, appeared to me purely theoretical. It was unphilosophical, however, to judge *a priori*. And having made the preceding observations, it was necessary to substantiate them by experiment, and accordingly, a few days after the paper was read, I made the following experiments.

[Here are given the details of the experiments, which it is unnecessary to transcribe. The following are the conclusions]:—

In the *Guinea pig*, eight inoculations by puncture, and one by excision, produced no effect.

In the *rabbit*, one inoculation by puncture directly from man to the animals, and two other successive inoculations from animal to animal, were likewise without effect.

In the *cat*, no result followed an inoculation by puncture with the lancet.

In the *dog*, one inoculation by the lancet, three by incision, then two successive punctures with the pus from the animal itself, were also without effect.

In the *monkey*, two inoculations by puncture, two by incision, then other two secondary punctures with pus derived from one of the first, were made. One only of these punctures became slightly inflamed, and furnished a small quantity of pus; but it produced no effect in a succeeding inoculation. The surface which furnished it did not ulcerate: it even cicatrised speedily.

We have here, then, twenty-five inoculations, spread over five species of animals, in not one of which was it possible to discover the characteristic pustule, whether the wound made by inoculation was left to itself, or whether it was irritated.

With such positive results, leading to this negative conclusion, I suspected something might be owing to my manner of operating, and therefore requested M. Ausias-Turenne to institute a new series of experiments on my animals, and in my presence. To this he had the politeness to consent.

Accordingly, on a dog, the skin having been previously shaved, he made six deep incisions, in the inter-orbitar space, by means of a pair of curved scissors; the edges were unequal, and the wounds close to one another, as they were all contained in a space not larger than a shilling. Their edges having been slightly separated and turned over, and the blood carefully wiped away, a considerable quantity of virus was spread over the whole surface. I satisfied myself that this

matter was in a good state for inoculation, as two days afterwards, I inoculated with it the patient from whom it was taken, and obtained the characteristic pustule. The matter dried on the surface of this manifold wound, but the animal was in no way affected. Notwithstanding the number, depth, and proximity of these wounds, and the attrition of their edges—all, circumstances tending to favour their union in one ulcer,—they cicatrised separately with the greatest rapidity, without turgescence, suppuration, appreciable effusion, or peripheral inflammation: on the sixth day the cicatrisation was general and complete.

On a monkey, again, he made three inoculations on the right eye-lid, two by puncture, and one by excision, with the same matter. In the course of forty-eight hours, there was slight tumefaction round these, but two days afterwards they were entirely healed. At this time there was a slight projection over one of the punctures, which caused us to suspect it might contain pus; but on opening it with the point of a pin, none escaped. This puncture continued to inflame slightly for six days: at the end of this period a pustule was recognised. M. A. T. ruptured it, and immediately inoculated the other eye-lid with the matter obtained from it. The animal having moved suddenly, the lancet penetrated deeply, and there escaped a few drops of blood. The wound healed exactly as a simple one, without the slightest suppuration. The wound caused by rupture of the pustule also healed in the course of forty-eight hours, without the least tendency to ulceration.

Three incisions were afterwards made by M. A. T. on the left eyelid, only one of which was inoculated. Next day, and the day following, the aspect of these wounds was exactly the same; on the sixth day they were all cicatrised; there was no mark by which we could distinguish the one in which the matter had been deposited from the others. He next made a wound in the forehead, deeper than the preceding, as part of the integument was removed; its circumference was regular, but the edges were somewhat contused. He covered it with a thick layer of matter, obtained from a syphilitic bubo, the inoculating power of which was tested. No inflammatory action occurred in this wound; it was dry on the third day, and perfectly cicatrised on the seventh, notwithstanding the attempts that were made to keep it open by dragging the surrounding skin.

Thus, then, whether I performed the operation myself, or whether it was done by M. A. T. in my presence, I never once succeeded in producing a state of ulceration similar to that exhibited to this Society. At the request of M. A. T. I visited the Garden of Plants, for the purpose of again seeing his monkey, and witnessed an inoculation performed with matter obtained from the so-called syphilitic sores in its face; but I affirm that this inoculation which, according to the testimony of our colleague, ought to have been decisive, produced, in my eyes at least, no positive result; for it is impossible to assume as such, a slight degree of inflammation which exhibited no tendency to ulceration. One word more regarding the monkey of M. A. T. This animal died in the month of November last, and its skin was sent to me for inspection. It exhibited, it was said, some spots which resembled syphilitic roseola, and it was stated that the animal had probably died from syphilis. I cannot seriously discuss the value of two or three ecchymotic spots discovered upon this skin; the desire to find in them any character resembling inflammation must be strong indeed, to have warranted such an assumption; they were more probably cadaverous spots, or the result of the dissection of the animal. The animal, moreover, had been ill for a considerable time, and when I saw it at the menagerie, was in an advanced stage of marasmus. This, however, was not the effect of syphilis, but of the most distinct tubercular phthisis, as I satisfied myself. I owe it to the kindness of M. Rousseau, that I had an opportunity of dissecting the animal. I found tubercules, both in the crude and softened state, in the lungs, liver, spleen, mesentery, and intestines. There was nothing extraordinary, therefore, in the death of this animal: even after all the experiments to which it had been subjected, it died, as most of its congeners, under the influence of our climate, and as the one on which I myself experimented has since died.

But although, in my experiments with inoculation, I have been unable at

any time to produce an ulcer having the appearance of true chancre, I have at least been able to induce sores somewhat resembling it. Thus in the monkey, I produced a wound in the forehead with loss of substance, and then applied nitrate of silver; I removed the eschar at the end of 48 hours, and cauterised anew; three days after I had an ulcer, which, in the eyes of many, might have passed for one of a specific character. On the abdomen of a Guinea pig, I produced a sore with great loss of substance, and cauterised it powerfully three different times. In this case, I obtained an ulcer, not only of a peculiar aspect, but of an indurated character, which might very readily have led to error. Lastly, I exhibited to several of my pupils sores, which I had induced in a patient by means of scissors and the nitrate of silver, which they mistook for well characterised chancres.

I may now ask if the inoculation of syphilis from men to animals, which failed in the hands of Hunter, my own father, and in those of the most able experimenters, has succeeded in a positive and determined manner in the hands of M. Ausias? Is it not more probable, after the experiments just related, that our colleague has been labouring under a delusion, and has confounded a mechanical cause with one of a specific nature; and that the fact still remains uncontradicted, that syphilis, under whatever form it presents itself, is exclusively confined to the human species.—*Archives Générales de Médecine*, for May 1845.

[We quite agree with the author, that we are still without any facts to show, that syphilis can be transmitted from the human species to the lower animals. His well-conducted experiments completely set aside the statements of M. Ausias-Turenne.]

Rupture of the Kidney.

Case 1. A man aged 40, carrying a heavy load on his back, fell, and struck his right side against a heap of stones. He immediately experienced excruciating pain in the loins, which continued for some hours, and he passed blood in large quantity with his urine. These symptoms continuing, the patient was admitted into hospital on the third day, under the care of M. Robert, who gave as his diagnosis, rupture of the substance of the right kidney; he was led to this conclusion, from having previously seen a similar case, which we shall notice presently, in which he had the opportunity of verifying his suspicion by dissection. The patient was repeatedly bled and cupped, with great relief both to the pain and fever; he was afterwards ordered drinks sharpened with *eau de Rabel*, and sulphuric acid. The urine, by degrees, lost its bloody character. At this time, (sixteen days from the accident,) the patient is convalescent: both pain and fever have disappeared, though the urine is tinged with red, but is daily becoming less so; he has regained strength and has a good appetite.

Case 2. In order to throw light on this case, we shall now give the other as related to us by M. Robert. A young man received a severe blow on the loins by falling on the corner of a table; he immediately experienced the most excruciating pain in the region of the kidneys, with abundant hematuria; the pain continuing, the patient entered the hospital. On examination, the case appeared equivocal; lesion of the kidneys, however, was suspected; but in the evening this was doubted, from the pain having disappeared, and the urine having again become clear. Next day pain returned with as great severity as ever, and large clots of pure blood passed with the urine. He continued to experience such alternations for some time, but, at last, the symptoms becoming aggravated, he gradually sunk. On dissection, the kidney was found very much torn; it had the appearance of a carrot broken across with the hand; but the fibrous capsule was entire, so that the blood from the wound could only escape by the pelvis, and from that by the urethra, in which it had at times accumulated, and blocked it up. There was no effusion around the organ. This kind of rupture may be produced artificially on the dead body, without tearing the surrounding capsule of the kidney.

Remarks.—Much has been written on rupture of the abdominal organs with-

out solution of continuity of the external parietes. But we are not aware that the characters of rupture of the kidney have as yet been well described. If no light had been thrown on the first case we have just detailed, by the results of a previous one, doubts might have been entertained as to its true character; but the consecutive phenomena in the two cases were so similar, that its true nature can hardly be doubted; the case is interesting, moreover, as having terminated in cure. The result of the rupture must, of course, depend much on its extent; the wound, however, being in the condition of a subcutaneous one, may cicatrise without suppuration. The appropriate treatment may be gathered from the preceding details.—*Annales de Thérapeutique*, as quoted in the *Encyclographie Médicale*, for February 1845.

Dermographic Crayons.

Dermographic Crayons were invented by M. Pyrlas, a young Greek, who suggested to M. Piorry that they might be used in place of ink and nitrate of silver, in clinical studies with the plessimeter. There are two formulæ according to which they may be prepared.

1*st Formula.*—Take of axunge 1 part; Venice turpentine 2 parts, wax 3 parts, lamp black a sufficient quantity. Melt the ingredients and mingle them with a spatula, adding the lamp black gradually. When the mass is of proper consistence remove it from the fire, and keep stirring it till it cools. It is then to be formed into crayons.

When it is wished to remove from the skin the lines traced by these crayons, it can be easily done by rubbing them lightly with a towel moistened with turpentine. If it is desired to have a crayon still more easily effaced, common soap may be substituted for the Venice turpentine of the formula, and two in place of three parts of wax employed. The marks made on the skin with a crayon prepared according to this latter modification may be effaced by simple rubbing. The above formula, with its modifications as to colour, &c., answers admirably, except when the weather is hot; and then the subjoined is preferable.

2*d Formula.*—Take of colophony 5 parts; stearine 4 parts; wax 2 parts; lamp black *q. s.* Melt them, stirring diligently with a spatula, and adding the lamp black till the mass attains a softish consistence, when it is to be poured into moulds, and set aside to cool.

To the physician and the surgeon, these crayons will be a great assistance, when they wish to observe minutely the progress of internal or external disease. Their uses in diagnosis will at once suggest themselves to the practical physician.—*Gazette des Hôpitaux*, as quoted in the *Journal de Médecine et de Chirurgie*, for January 1845.

Account of a Man who was Mistaken for a Woman until he was 26 years of Age. By Dr C. Otto of Copenhagen.

P. F., the child of a priest, was born on the 6th August 1817, in a village of Zealand. At birth *she* was considered a female; and was baptised and educated accordingly. She soon became remarkable among her sisters, on account of her superior physical strength and greater powers of endurance. At the age of puberty, there was no appearance of the menstrual discharge; and she had no kind of illness which could be attributed to its absence. The breasts did not enlarge; and the voice became so deep and strong, as to excite universal attention. After this, stiff hair began to grow on the upper chin, lips, and cheeks, which she endeavoured to conceal by frequently cutting it. There now arose a suspicion in her mind, that a mistake had been made as to her sex. Dejection was caused by this suspicion; and she was ashamed to communicate her secret to any one. In the mean time her desires for manly pursuits increased; and with them her anxiety to be recognised as a male augmented. She, therefore, applied to a physician, to have her sex determined. After the examination then made, which was also repeated in presence of the town physician, the following observations were noted.

P. F. has a deep masculine voice, is about 66 inches in stature, rather thin, of sharp rather than rounded outline, and though not very muscular, the muscles are decidedly strongly marked. There is some short, stiff, thinly set hair, upon the upper lip, chin, and cheeks. The shoulders are broad, and their outline is prominent. The arms are long, and destitute of all roundness of contour; the condyles of the humerus are prominent; the hands are large; the fingers are long; the breast is not covered with hair; the mammæ are quite flat; the nipples are about the size of a pea; and the areolæ are surrounded with a circle of long dark hair. The pelvis is in proportion to the breadth of the shoulders, *i. e.* somewhat narrow; and the ossa ilia have the same outline as in the male. The pubes is projecting, and thickly covered with dark hair. In the middle of the symphyses pubis is to be seen a *membrum virile*, which, in a relaxed condition, measured two inches in length, and one in diameter. It is surrounded by the common integument, which forms a preputial covering to the gland. The gland is imperforate; it is of proportional size with the member, is covered with a fine red skin; and is well formed, having a neck and corona. On the under surface of the gland is a furrow, which extends along the under surface of the member. This furrow is covered with a thin mucous membrane, similar to that which lines the inner surface of the urethra; and where it ends, it passes into an oval opening of such dimensions, that a medium-sized catheter can be introduced into it. Through this opening the urine is discharged; and by it a medium-sized catheter can be passed into the bladder. Under this urethral opening is found a sheath-formed passage, which is closed at its bottom: it is about one inch in depth and width, so that the extreme joint of the little finger can be introduced into it. This short canal, which somewhat resembles the female vagina, is bounded below by the perineum, and turns with its boundary or closed end towards the rectum, but does not go up between it and the bladder. Its interior is covered with a thin moist skin, which imperfectly resembles a mucous membrane, and has the same appearance, in fact, as the skin covering the furrow on the under surface of the member. There cannot be discovered opening into it any excretory duct from the prostate gland, or vesiculæ seminales. On each side of the member is a bag of the same structure as a scrotum; which, like it, is formed by the integuments, and covered with hair on its lower side. On the right, the bag hangs down nearly as far as the scrotum generally does; and in it can be felt a testicle of the common form, somewhat larger than a pigeon's egg, with a distinct epidydimis, and spermatic cord of $1\frac{1}{2}$ inch long, which passes up into the right inguinal ring. On the left, the bag hangs down less: in it also, as on the other side, can be felt a testicle, &c., situated close without the ring, but which cannot be pressed through the ring into the belly. No marks of hernia exist on either side. By sounding the bladder, and pressing out the point of the instrument, no uterus could be detected. The bulbous portion of the urethra seems to be wanting: the size and figure of the prostate cannot be accurately ascertained.

It thus appears that in P. F. no external female genital organs exist; and no internal ones have been detected, or can be supposed to be present. The case seems to belong to Meckel's third or highest degree of hypospadias, where not only the under surface of the urethra, but also the scrotum is divided, the division or gap extending in a blind sheath between the intestines and the bladder. P. F., it appears, has seminal emissions, but no well-marked sexual appetite. The above facts, and others, which want of room forces us to omit, caused a certificate of manhood to be granted to P. F., which was given in to, and confirmed by, the Royal College of Health.—Abridged from the *Bibliotheh for Læger*, No. 4, of 1844.

Description of a Congenital Tumour of the Testis, containing an Osseous Mass, and covered by Integumentary Membrane and Hairs. By John Goodsir, Esq. [Published by Dr Duncan.]

Some time ago, Dr Duncan had occasion to remove a congenital tumour of the testis, from a boy of eight years of age. On cutting into the tunica vaginalis, a considerable quantity of matter, mixed with hairs, was evacuated; and upon farther examination, an irregular tumour was found to occupy the situation of the testis, which was therefore removed. At Dr Duncan's request, Mr Goodsir examined the tumour, and furnished the following account of it.

"A mass of an irregular ovoidal form, about the size of the last joint of the forefinger, appeared to be the testis, so much altered in texture as to present no trace of its original structure.

"It consisted almost entirely of fibrous texture, inclosing fat-cells in its areolæ, and, at variable distances throughout, small tubercular masses of a light yellow tough substance of a granular aspect, resembling some forms of scrofulous deposit.

"Near the reflection of the tunica vaginalis on the surface of the testis, two club-shaped projections were attached, covered by a layer of a substance resembling the ordinary integument, with a quantity of fatty cuticular debris upon it. This portion of integument somewhat suddenly became continuous with the surface of the tunica vaginalis.

"On the surface of the club-shaped projections, and at the angle of reflection of the tunica vaginalis, numerous long hairs were attached by bulbs.

"These hairs, of one half to three-fourths of an inch in length, were conical, pointed, and of two kinds, some having their conical pulp-cavities prolonged in the form of canals, full of cells to their extremities; others were, with the exception of their conical pulp-cavities, solid.

"The integumentary membrane in which the hairs were implanted, resembled in all respects the ordinary skin of the surface of the body.

"A few hairs appeared to arise from the general surface of the tunica vaginalis.

"In the substance of the club-shaped projections, but particularly in the larger of the two, where it adhered to the mass of the testis, there were irregular masses of soft cartilage, presenting all the ordinary characters of that texture-corpuscles, and a few vascular canals.

"In some places this cartilage had been converted into bone, in which were visible irregular Haversian canals, and numerous corpuscules and canaliculi.

"One portion of bone, resembling a sand-glass, measured half an inch in length."—*Northern Journal of Medicine*, for June 1845.

[In connection with this interesting case, we would refer our readers to three consecutive articles in our Periscope for February 1841, pp. 121—124,—1*st*, Velpeau's case of the "Removal of a portion of a Fœtus (?) from the testicle of a Young Man of 27;" 2*d*, "On Monstrosities by Inclusion;" with a list of recorded cases, by Dr Lachèse of Paris; and, 3*d*, a notice of the "Theories as to Monstrosities by Inclusion." In our report of the Edinburgh Medico-Chirurgical Society for 8th April 1841, (Monthly Journal for June 1841, p. 457,) is a short account by Dr Cormack of an ovary converted into a cyst, containing hair and a quantity of sebaceous-looking matter. "Dr C. pointed out, that the walls of the cyst were lined with what in appearance was quite analogous to skin; and that many of the hairs were inserted therein by roots, which when examined through the microscope, seemed to be true bulbs. The hairs seemed to be thrown off into the cyst in successive crops."]

Sudden Death during Attacks of Epilepsy, with the Appearances on Dissection.—Remarks on the Treatment.

Case 1. We find in the *Revue Médicale* a report by Dr Blandet to the *Procureur du Roi* upon a case of sudden death. The subject was a man about 60, who had for the last four years been subject to monthly attacks of epilepsy.

On the 24th November he had occasion to rise from bed, to satisfy a call of nature: when in the very act, he uttered a single cry, and fell down dead. The physical and intellectual powers of this man had become impaired since his attacks commenced.

Autopsy.—On opening the head, the dura mater was found adhering to the brain, along the whole course of the *falx major cerebri:* the membranes were obviously injected, and in some places thickened; the grey substance of the brain, but particularly of the cerebellum, was also injected; there was no effusion of blood or pus in the brain; and not more than two table spoonfuls of serum were found at its base. These appearances are similar to what are often found in epileptics; but do not at all explain the cause of sudden death.

CASE 2. An active young woman, blessed with a good constitution, and who had always enjoyed excellent health, fell into extreme misery through the misconduct of her husband. Privations of every kind, and bad usage had not seemingly altered her constitution, till, on one occasion, after a scene of violence, she had her first attack of epilepsy. The fit recurred on the following days; and very soon, the seizures were so frequent as several times in the 24 hours. The attack was generally preceded by a certain feeling of uneasiness, well known to epileptics; but sometimes, it came on suddenly, and without any warning. In every instance, she had complete loss of consciousness, congestion of the face, and foaming at the mouth. This woman was admitted into the Hospital of Senlis, (Oise) at the end of last October, at which period she had not been subjected to any medical treatment, although the malady was then of two years standing. The particulars of the case are furnished by Dr Voillemier, under whose care she was in the hospital.

After she had been observed for some days, she was prescribed the nitrate of silver: under the influence of which, the fits speedily diminished in intensity. At the end of the first month, they were few, and slight: but a sharp contention caused them to return more severely. The use of the medicine was at this time suspended for some days. When resumed, the patient soon had only that uncomfortable feeling formerly mentioned. On the 25th of December she was apparently in a most satisfactory state. For eight days she had not even had the uneasy sensations, which had often been the precursors of her attacks: occasionally, however, she complained of an extremely violent headach. On the morning of the 26th, she had an epileptic attack; and on the evening of the same day, a second, during which she died.

The Autopsy was looked forward to with much interest. She had had neither colic nor vomiting. The skin had not assumed that black tint, so often seen in patients who take the nitrate of silver. The dose of this substance had besides been only gradually elevated to 20 centigrammes. She never had had any sign of palsy.

The *intestinal canal*, when examined with care, did not present any appreciable lesion: there was neither ulceration, inflammation, redness, nor any other indication of the immediate effect of the drug. The *brain* was of the ordinary volume; its membranes were remarkably dry, and adhered to the brain at an infinity of points. Notable traces of cerebral congestion were seen: the sinuses were filled with blood. There was a small quantity of serum at the base of the brain. The cerebral substance, (removed with precaution,) presented nothing abnormal. It was cut, slice by slice, from the base to the summit. When the knife reached the anterior and superior part of the brain, it was stopped by a hard and resisting body, resembling cartilage or a schirrous gland. This induration, the seat of which was in the white substance of the brain, was not a tumour composed of adventitious tissues, but cerebral substance, which, without changing its aspect, became, all at once, for two inches, of cartilaginous hardness. This hardened portion was about the size of a small hen's egg. The cerebral substance surrounding it was perfectly similar to the rest of the brain; and the hard part could easily, by feeling it with the finger, be accurately circumscribed. Dr Voillemier kindly forwarded to us this remarkable pathological specimen; and we placed it in the hands of Dr Chassaignac, V. P. of the Anatomi-

cal Society, who declared himself at a loss as to the place in nosology which it ought to occupy.

Remarks on the Treatment.—Looking at this case in a practical point of view, it will be recollected that for two years, the patient had been subjected to characteristic fits of epilepsy; that these fits were sensibly modified during the administration of the nitrate of silver; and that, not withstanding, there existed in the brain, a large induration of almost cartilaginous consistence. Are we to suppose, that this mass diminished under the influence of the nitrate of silver, and that one day, the medicine might have completely removed it, had not death inopportunely stopped the treatment?—*Journal de Médecine et de Chirurgie Pratiques*, for February 1845.

[It often happens that indigo, nitrate of silver, &c., produce effects fully as good as those above narrated; and that still, on dissection, we find long bony spiculæ, cerebral tumours, and exostoses from the internal surface of the bones of the cranium. As a suspension of the fits in these cases is often obtained from the first two or three doses, we must conclude that they act in some other way than in inducing sensible structural improvement. The changes, if any, which the specifics for epilepsy induce in the brain, can only be discovered by the researches of chemists and microscopists.]

On the Rupture of Ovarian Cysts. By M. Camus.

The Rupture of an Ovarian Cyst into the abdomen without death supervening, is a fact, which though not new in the annals of science, is still one sufficiently interesting. The following are the principal circumstances of the case, related by M. Camus to the Medical Society of Paris.

A woman, aged 45, had laboured under an ovarian cyst for the last two years and a half. Purgatives, diuretics, ioduret of potassium, and compression, had alike failed in procuring any benefit. The patient was on the whole however, in a tolerably comfortable state, till the 17th January 1844, when the tumour became the seat of severe pain, accompanied with extreme lassitude, shivering, and slight fever.—(A bleeding prescribed.)

On the 18th, the patient was suddenly seized with severe pain in the abdomen, prolonged shivering, nausea, vomiting, and great restlessness; pulse 126, small and hard, colic, face anxious, as in peritonitis.

On examining the abdomen, M. Camus discovered to his surprise that *its shape was completely altered:* instead of projecting it was flattened at the centre. But the abdomen had gained in size, what it had lost in prominence. Percussion yielded a clear sound in the median line in the neighbourhood of the umbilicus, where formerly a dull sound had been heard. At the sides, on the other hand, the clear sound was replaced by a dull one. The undulation of fluid from one side to the other had never been before so perceptible. These remarkable changes were evidently due to rupture of the cyst, and the consequent effusion of the fluid which it contained, into the peritoneal cavity. The encysted dropsy had become converted into a true ascites. Notwithstanding the fears to which this accident gave rise, the peritonitis terminated happily in the course of two or three days.

On the 22d and 23d, the urine, hitherto scanty, became clear and limpid, and in such quantity as to fill the vessel five times in the twenty-four hours. During this time, the abdomen also lost from two to three inches daily in circumference, and became more and more pliant.

On the 1st February, twelve days after the rupture, the urine still continuing to be passed in abundance, the existence of fluid in the peritoneal cavity could no longer be discovered. The abdomen was reduced to size to which the patient had been long a stranger; and all symptoms of inflammation had disappeared.

Notwithstanding the employment of regular pressure and diuretics, the fluid soon again accumulated, and the abdomen acquired a size even greater than formerly. On the 17th July, the patient was seized with sudden pain, and an

extraordinary movement in the abdomen, which phenomena being almost immediately followed by sinking of the median line and enlargement of the sides, indicated that effusion of fluid had *a second time taken place into the peritoneum.* The same series of phenomena occurred as formerly, but they were of less severity. The quantity of urine was also less. The fluid, however, was again entirely absorbed, although somewhat more slowly.

At the end of four months and a-half the cyst had again filled; a third rupture took place; there were the same symptoms, but with diminished severity. The urinary crisis was also less abundant, although the absorption was accomplished in ten days.

M. Camus was naturally led by the preceding case to seek for analogous ones among authors, and from a comparison of these, he has deduced some highly interesting conclusions. As regards the termination,—the patients in whom rupture of an ovarian cyst took place into the peritoneum, may be classed under four categories.

1. Into those in whom death occurred immediately, or within a few days of the first rupture. These cases are rather numerous; but, in most, dissection disclosed that the cyst, previous to rupture, had contained a purulent fluid more or less altered, and not the serum usually met with. This circumstance is sufficient to account for the fatal termination of the disease.

2. Into others, who after one or more ruptures, have remained affected with ascites. Morgagni relates several cases of this kind, some observed by himself, and others by Basius, Gutermann, and Schecher. It is not, however, demonstrated that in these cases the ascites did not originate at the same time with the ovarian cyst, and previous to the rupture of the latter.

3. It is to be observed that most patients who have survived one or two ruptures were cured only temporarily, and at last sank under the progressive effects of the encysted dropsy. Mauriceau (*Obs.* 49), Morgagni, Boyer, (*Maladies Chirur.*) and Bluff, (*Thesis, by* Cazeau, 1844), quote examples terminating in this way, which are interesting, as they exhibit a large number of ruptures and peritoneal effusion, followed by absorption of the liquid, without any serious alteration of the general health.

4. There was one patient, who after several ruptures, was definitely cured of the encysted dropsy. This *unique* case is given by M. Bonfils, and was the subject of a report to the Academy of Medicine, by M. A. Bérard.

M. Camus then puts the following question;—Can art do any thing towards rendering the rupture innocuous, and thereby produce a cure of these ovarian cysts? As there is no hope of obtaining a cure, and consequently no end to be served by inducing rupture, provided the cyst contains pus instead of serum, this point ought first to be ascertained by a previous puncture. With this important exception, M. Camus repeats the advice given by M. Bonfils, who recommends, after puncture of the cyst, and previous to withdrawing the canula, to move the instrument somewhat briskly in different directions so as to contuse and even tear the wound made in the walls of the cyst, and thereby prevent the adhesion of its edges, and so to allow a continual escape of fluid from the interior of the cyst into the peritoneal cavity, where it will be absorbed. But can the successful results said to be obtained by M. Bonfils by his method, be thus explained? Ought we not rather to attribute them, with M. Bérard, to the effects of adhesive inflammation—induced by the movements of the instrument—producing obliteration of the cavity? M. Camus admits that the explanation of M. Bérard is the more logical. But he, at the same time, remarks that in the case of rupture, the fluid is not evacuated as after puncture, but remains in the abdomen in contact with the opening into the cyst, and that thus, its pressure must be greatly adverse to the work of adhesion, on which the radical cure depends.

In any case, however, the innocuousness of these ruptures, and the possibility of the re-absorption of the effused fluid, are two facts worthy of the fullest consideration. They ought henceforth to be taken into account in the history of these affections, and would authorise us more than ever to have recourse to a mode of cure more certain and less dangerous than any we yet possess

for this formidable species of dropsy, we mean sub-cutaneous incision of ovarian cysts, or according to circumstances the simple puncture, operations already several times proposed by the author of this method.—*Revue Médicale*, as quoted in *Gazette Médicale*, 1st March 1845.

SURGERY.

Professor Syme's New Treatment of Fungus of the Testicle. By James Duncan, M.D., one of the Surgeons to the Royal Infirmary of Edinburgh.

The treatment recommended by Mr Syme, is stated by him to be founded on an examination of the diseased structure; and its principle is thus described by him:—"This observation suggested to me the idea, that by the use of proper means the fungus might be made to retrace its steps, through absorption of the white substance and gradual approximation of the brown, and that the granulating materials of the surface might thus be enabled to complete the healing process. Pressure was obviously the agent on which reliance could be chiefly placed, for producing the effect desired with this view, and the most convenient mode of compressing the growth, seemed to be inclosing it within its proper covering of the scrotum. There is no loss of substance in this part, as the fungus, issuing through a small ulcerated orifice, merely presses the integuments aside, so that they are found lying in loose folds above the dense ring that encircles the neck of the protruded mass. It must therefore be easy to obtain from this source, an abundant supply of materials for the purpose."

Several objections, and, amongst others, the probability that the surface of the fungus would not unite with the superinduced integuments, naturally suggested themselves. The result of the cases already published removes these, but the weightiest one still remained, the doubt whether the gland would return to a healthy condition and regain its functions. Unless it did so, the treatment proposed would not possess any great superiority over those already in use.

There must necessarily be few opportunities of deciding this point satisfactorily. To do so, the patient affected with the disease must already, by some means or other, have been deprived of the other organ. This is the only case from which any satisfactory conclusion can be drawn.

Case.—The following is a case of that description, and the evidence derived from it, so far as it goes, appears to me satisfactory:—

A. S., aged 28.—Admitted into Royal Infirmary, March 30th, with fungus of the left testicle. The protruded portion is about the size of a large walnut, and appears to include the greater part of, if not the entire, testis. It is softish in consistence, and otherwise presents all the characters so well described by Mr Lawrence.

The disease commenced about four months ago. The testicle became painful and swollen. The swelling increased, until it had attained the size of his fist. The scrotal integuments then became adherent, and in about two months gave way, discharging a small quantity of purulent matter. The fungoid protrusion, for which he was admitted, then formed, and from that time the pain greatly diminished. Small superficial sloughs have occasionally been detached from the fungus.

The right testicle has been diseased at a former period, and no trace of it now remains. The patient has been in bad health for several years, and has been repeatedly salivated for the treatment of syphilis.

An elliptical incision was made around the fungus, and extended upwards and downwards, the integuments were raised and brought over the growth, and retained by several stitches. This was accomplished with great facility.

Some degree of inflammatory œdema followed the operation, but this quickly subsided, after puncturing the integuments with the lancet, and fomentations. On the third day, the sutures were cut, and support given by means of several

strips of adhesive plaster. Partial union only, by the first intention, took place; but there was, notwithstanding, no disposition in the fungus again to protrude.

The patient left the house on the 10th of May, the wound having been for some time completely cicatrised.

In this case we had that combination of circumstances already alluded to, which alone could throw any light upon the point in dispute; and I was consequently anxious to ascertain the state of matters, in regard to the sexual desires. On inquiring at the man, he assured me that his feelings in that respect were unimpaired, and as strong as they were two years previous to the existence of the disease in either testicle; and from a communication which we have subsequently had from him, we were rather inclined to believe that these powers had been tested."—*Northern Journal of Medicine* for June 1845.

[When in Glasgow a few days ago, we saw, in the Royal Infirmary of that city, under the care of Dr Lawrie, a case in which this operation had been performed with complete success. The patient, a lad of 23, had been kicked on the scrotum twelve months before. Suppuration, ulceration, and protrusion of the whole anterior and inferior portion of the left testicle followed; the surface and a great part of the substance of the fungus appearing to consist of yellow strumous deposit. On the 12th May, Mr Syme's operation was performed; and on the 25th, the patient was so well, as to be anxious to return home, but was prevailed on to remain a few days longer, that the cicatrization might be more secure. Dr Lawrie remarked to us, that where the skin was most deficient, and with the greatest difficulty made to cover the protrusion, *there* the cure was soonest, and apparently most securely effected. The case was altogether a most satisfactory testimony in favour of the new method of treating fungus of the testicle.]

Autoplasty of the Penis. By M. Vidal.

An eating chancre had almost entirely destroyed the prepuce of a young man: all that remained was an elongated, deformed slip, corresponding to the frœnum. The end of the corpora cavernosa, as well as a large portion of the gland, was destroyed: what remained of the latter was attached loosely to the urethra, and moved about like the top of a mushroom on a flexible stalk. In this condition the penis was of course useless (*hors de service*). M. Vidal resolved to repair the prepuce, and support the gland as much as possible. He made raw the edges of the slip of prepuce already mentioned, as well as the ulcerated edges of the penis itself: he then divided the slip into two longitudinal bands, which he brought round towards the back of the organ, so as to encircle the urethra as if with a cravat, and, at the same time give a point of support to the gland. The prepared edges were kept in apposition by sutures, and in due time they united, after which, the patient participated in coition without inconvenience.—*Gazette des Hôpitaux*, as quoted in the *Journal de Médecine et de Chirurgie* for January 1845.

On the Treatment of Burns, by Iced Water.

The results obtained by M. Jobert, at the Hôpital St-Louis, in the treatment of Burns, by means of Iced Water, have been truly remarkable. This remedy, refrigerant *par excellence*, removes the morbid heat, limits the work of gangrenous suppuration, and above all, prevents those visceral re-actions, so formidable in these accidents, and places the tissues, adjoining the disorganised part, in the most favourable condition for reparation. If the burn be an extensive one, engaging a large surface of the body, the cold bath is used repeatedly; and in the intervals, the injured parts are kept covered with large pledgets of cloths steeped in cold water, and covered with bladders of ice. We have seen patients recover under this treatment, who in all probability would have perished had it not been

adopted. Very lately a workman was brought to the hospital, who having fallen asleep with his clothes on, and a lighted candle beside him, the former caught fire. He was severely burned over the whole of the left shoulder, corresponding side of the neck, clavicle, and upper part of the arm. The injured parts were covered with cloths slightly spread with cerate, they were then sprinkled with iced water, and enveloped in bladders half-full of ice. A bleeding was prescribed, with low diet and refreshing drinks. General re-action was completely checked by this treatment. The eschars being about to separate, the ice was replaced with simple applications of cold water: and every thing at this date appears to indicate a happy termination of the case. We might give many other cases equally severe, and many more so—as for instance the immersion of the whole lower extremities, with the hips and loins, in a boiling lie—successfully treated by means of continued cold baths, and applications of iced water. The patients feel refreshed, the pains abate, the fever diminishes, they enjoy sleep, the restoring powers of the organism are strengthened, and a more or less speedy cure takes place.

Much has been written on the subject of burns. New remedies for their treatment, or remedies which had fallen into disuse, but again revived, are every now and then submitted to our attention. These are occasionally well received; but they soon undergo the fate of their predecessors, and are silently put aside to make way for something new. We shall not at present stop to inquire the reason of this versatility of practice, equally prevalent in ancient times as in our own day. We may merely say that many of these remedies have been positively noxious and bad; carded cotton, for example, which, by some, has been lately much lauded. It is difficult to conceive how any one can rest satisfied with treating a burn, regardless of the amount of injury sustained, by merely covering the injured part with cotton, a non-conductor of caloric, which maintains, increases, and accumulates the very principle of the disease which it is introduced to combat. It is quite evident that by this practice, a burn of the second degree seems to pass into one of the third, by the accumulation of caloric, which converts the simple inflammatory re-action into one of gangrene or eschar. To illustrate the positive evil of all this, we shall enter into some details.

It has been assumed, by a vulgar prejudice, that burns continue to progress after their formation, that is to say, that eschars, which did not exist immediately after the accident, are afterwards formed, and extend for some days. This prejudice has been overthrown by science; for it has been shown that mortification occurs the moment the caloric is applied, and at places, moreover, where nothing is appreciable, but where eschars appear at a later period. This doctrine, however, must not be taken in a rigorous sense, as it overlooks the mortification which occurs spontaneously with the phlegmonous re-action, a re-action in itself of a gangrenous nature, independently of the primary action of the caloric. It is a fact, that for a time the burned parts are very warm; they still preserve a quantity of caloric, insinuated and accumulated in the tissues. We verified this fact very lately, on applying the actual cautery to the inguinal region. Our fingers applied to the hypogastrium, for the purpose of fixing the parts, felt for some time the action of the caloric applied at a distance,—the whole adjacent tissues were of a burning heat for a short period. It is true, therefore, that burns progress and extend, either by the accumulation of caloric in the tissues themselves, or by the gangrenous re-action which its presence excites. The natural conclusion from these observations is, that the primary and fundamental indication in the treatment of burns, consists in the withdrawal, by every possible means, of the caloric accumulated in the injured part, whether it be that communicated by the original burn, or that caused by re-action, which acts in a similar manner. To accomplish this we have only one remedy, iced water, or ice itself. It is, therefore, evident that the best and most soothing remedy in severe burns is the cold bath. Why, then, is this treatment—the only rational and efficacious one—so little practised in our day? Simply because cold water is too common a thing, and there is a mania for specifics; cotton comes from the east, and in the eyes of many there is something balsa-

mic about it, and M. Mayor moreover has discovered in it some occult qualities!! What are its effects? Pools of pus under disgusting, hard, and irritating crusts of cotton, which adhere to the ulcerated surfaces, and the duration of which is indefinite? As regards medicines, we truly live in a period of the most desolating empiricism. In pathology we reach to the sublime; therapeutics should flow as a natural consequence from it, but experimental inquiry regarding it is disdained. The most simple reasoning is abandoned, and every thing is given up to chemistry, as if matters were conducted in the living organism, as they are in our retorts. These remarks are directed against certain compositions, the efficacy of which has been much vaunted, which without being positively hurtful, take the place of more certain remedies. It is paradoxical and absurd to talk of *curing* a burn,—we cannot cause a part in a state of vesication, or mortification, and covered with an eschar, to retrograde; but there are important indications to fulfil, in order to prevent the progress of these, as well as to ward off serious visceral re-actions, and alleviate pain. These indications cannot be fulfilled by such and such an application, and to oppose to such conditions handfuls of cotton, or, what is still worse, the calorific box of M. Guyet, implies a total abandonment of every thing like reason or logic.—*Annales de Thérapeutique*, May 1845.

Nævus on the Superior Lip of an Infant, Cured by Cauterization. By M. Barnetche, Bordeaux.

M. L., aged 22 months, at the age of three months was observed to have a small swelling, of the size of a pea, on the edge of the upper lip: it was at first red, but afterwards it assumed a violet colour every time the child cried; and the lip at the same time became increased in size. From that period, the nævus continued to increase; and when first seen by M. B. it occupied the whole upper lip, but more especially the right side. It had remained stationary for a time, but increased with great rapidity within the last few months. On consultation with another medical man, delay was advised. It was afterwards seen by M. Dezeimeris, who recommended excision, which, however, was not resorted to. It continued to increase so rapidly, that the parents taking alarm, went to M. B. It was easy, he says, to diagnose *a priori*, an erectile tumour. The lip was thickened, of a blue colour externally, and of a violet on its inner surface; distinct pulsation could also be felt. It was soft, but became tense when the child cried, and decreased under pressure with the finger. The indications being so manifest, it was necessary to act without delay. Notwithstanding I was at one with M. Dezeimeris on this point, I deemed it necessary to have also the opinion of Dr Costes; he perfectly concurred with us, so that the only remaining question was the mode of operation. Compression appeared to us to be as inadequate, as it would be difficult of accomplishment. Caustics had failed in the hands of M. C. in other cases, and ligature of the arteries alone, we had reason to apprehend, would be of little avail, from the numerous anastomosing branches going to the tumour. The success obtained by M. Roux, in a case of this kind, still appears to us to be an exception to the general rule. Notwithstanding the dangers accompanying extirpation, it appeared to us the only method likely to be attended with success; and it was accordingly determined,—having previously tied the labial arteries, on a level with the commissures,—that an incision should be carried along the free edge of the lip, and as large a portion as possible of the erectile mass removed. On the 11th April, the little patient being secured, M. Costes seized the upper lip, and turned it out, I immediately passed a curved needle, armed with thread, under the arteries, and succeeded, (but not without great difficulty,) in applying the ligature. An incision was then carried along the lip, and a considerable mass of the erectile tumour seized with a pair of forceps, and cut out with the bisoutry. A sheet of blood (*hemorrhagie en nappe*) immediately followed. It was in vain we attempted to stop it by cauterisation with the acid nitrate of mercury. A crimson jet of blood projected to a great distance could not thus be stopped; the child was pale, and syncope impending. Under these circumstances I imme-

diately decided to apply the actual cautery, and by its means the hemorrhage was controlled. A light compress was applied, and the child restricted to milk for diet. The febrile reaction was very slight; the ligatures were detached on the 16th, and the eschars on the 18th; the wound looked as well as possible; on the morning of the 19th there was a recurrence of hemorrhage; after consultation with my colleagues, MM. Costes and Pouget, I again applied the actual cautery, which arrested it; from that period, the lip became indurated throughout nearly its whole extent, and diminished in size, more especially on the right side. The pulsations, which ceased at the time of the first operation, have not reappeared. The colour of the lip, both externally and internally, is normal; and now, 11th December, eight months after the operation, the cure has continued. There is a slight line, however, of a reddish colour, extending to the left nasal fossa, regarding which we are not without anxiety; we fear we may yet have cause to regret it having been left behind.—*Annales de Thérapeutique*, for May 1845.

MIDWIFERY.

"De Eventu Sectionis Cæsareæ:" or, Statistics of the Cæsarean Section. By M. Keyser, Copenhagen.

The following particulars are chiefly derived from the valuable memoir, the title of which is prefixed to this notice. M. Michaëlis is the first individual who furnished a statistical account of the results of the Cæsarean section. He excluded from his list all the cases which had been recorded previous to the year 1750, as not being sufficiently authentic; and brought it down as far as the year 1833. Dr Levy, a Danish physician, carried down the investigation as far as the year 1839. M. Keyser has examined these two memoirs with the greatest possible care; and, after the strictest scrutiny, has rejected 62 cases from Michaëlis' enumeration, and, on the other hand, has added 69 cases which the learned German had either rejected without sufficient reason, or had not been cognisant of. He has subjected Dr Levy's collection of cases to a similar revision. After this correction, the former table is found to embrace 265 cases, the latter, 73: together, 338; of which 128 proved successful cases, and 210 unsuccessful. This yields a mortality to the mothers of 0.62. The supplied data give to the children a mortality of 0.31.

M. Keyser has, with much care, checked the accuracy of these researches. There is, however, great reason to doubt whether all the unsuccessful cases have been published. Notwithstanding the abundant number of the periodical publications which issue from the medical press, and the praiseworthy care with which the editors of these valuable works collect every fact calculated to interest the medical public, a great number of unfortunate cases remain unnoticed and unknown. Thus, MM. Nægelè, Wilde, and Keyser himself, have respectively been cognisant of 17, 7, and 4 cases, which have never been published to the world; and if such a number, well known, occurred in Germany alone, where publicity so much prevails, how many more must have passed without notice in other countries? That he might reach a somewhat more exact result, M. Keyser next selected the cases which had been preserved in the records of hospitals; and out of 67 cases so afforded, he found that 53 had been unsuccessful. Here the want of success was considerably augmented, namely, to the amount of 0.79. This is a clear proof that the general mortality must have exceeded 0.62. How high, then, may it ascend? This inquiry we cannot very readily answer. Wilde believes that it is as high as 0.90; and Levy agrees with him that this calculation is very near the truth. Respecting the mortality of infants in the cases where the mother dies, and survives the process of parturition, the result of M. Keyser's calculation is, that it amounts to 0.32 in the former case, and to 0.27 in the latter.

Regarding the time which intervened from the commencement of labour, M. Keyser divides his tables into three categories. In the first, the operation had been performed within the first 24 hours; in the second, in the interval between the 25th and the 72d hours; in the third, more than 72 hours after the commencement of labour. In the first category, the mortality of the mothers was 0.67, that of the infants, 0.28; in the second, the result was respectively 0.55, and 0.33; and in the third, the mortality amounted to 0.72, and 0.60.

In 112 cases in which it was noted whether the membranes were unbroken or not, and the time within which this event happened, 47 cases were successful, and 65 unsuccessful. Of the 47 successful cases, in 12 the membranes were entire, and the mean period subsequent to the rupture of the membranes, when they had burst, had been 18 hours. Of the 65 unfortunate cases, the membranes were entire only in 7 cases; and the mean time of those in which they had burst was 26 hours. In again entabling the cases, according as the operation had been performed—1st, Immediately after the rupture of the membranes, or within 6 hours after this event; 2d, Between 7 and 24 hours after the rupture; and, 3d, More than 24 hours after the event. It appeared that in the first category, the mortality of the mothers amounted to 0.50, and that of the infants, to 0.14; in the second category, the result was respectively 0.60, and 0.22; and in the third it was 0.66, and 0.49.

In 32 cases, wherein turning, the application of the forceps, or even perforation of the cranium was performed, or attempted previous to the Cæsarean section, the mortality amounted to 0.66; and in 28 of these cases in which the fate of the child is noticed, the mortality was 0.82.

In cases of contraction which had been produced by *rickets*, the mortality amounted to 0.60; and it was not less than 0.69 in those which followed *mollities ossium*, and contractions resulting from obstruction.

In 147 cases, the incision was made in the *linea alba*, and the mortality amounted to 0.56. In 56 cases, it was made in the side, and the ratio of mortality was 0.68.

In cases of hemorrhage, the mortality was in the ratio of 0.72; and in that of 0.67 in cases of hernia of the intestines.

Respecting the degree of contraction, the mortality was less in those cases in which it was extreme, than in those in which it was more limited. It was in the ratio of 0.47 in cases which were $1\frac{1}{2}$ inch (French), and less than this; and 0.66 in cases which were $1\frac{3}{4}$, and more than that measurement.

The cause of the mortality is indicated in 123 of the cases, and these supply the following table:—

Death was produced	77	times	by abdominal inflammation.
,,	29	,,	nervous symptoms.
,,	10	,,	effusion of blood.
,,	2	,,	internal hemorrhage.
,,	2	,,	inflammation of the chest.
,,	1	,,	rupture of the uterus and severe hemorrhage on the seventh day.
,,	1	,,	the progress of mollities ossium.
,,	1	,,	it occurred immediately (24 minutes) after the operation.

Regarding the epoch of death, the statistical investigation affords the following results:—

Once	almost immediately after the operation.	
9	times	in less than 6 hours after it.
16	,,	from 6 to 24 ,,
108	,,	between the 1st and 7th day.
16	,,	,, 8th and 21st day.
1	,,	the 30th day—case of mollities ossium.
1	,,	36th day—from perforation of the intestine.

This summary of M. Keyser's memoir must prove interesting to many of our

readers, who will find no difficulty in deducing for themselves legitimate conclusions as to the results which may be expected to follow the Cæsarean operation.—*Journal de Chirurgie* for January 1845.

Cæsarean Operation Successful to Mother and Child. By M. Lebleu, Chief Surgeon of the Civil Hospital, Dunkirk.

We give the following account, not only because of its intrinsic interest, but on account of its being a model for imitation. —— C., aged seventeen, having menstruated twelve months previously, was admitted into the hospital on the 10th of October 1844, at 7 P.M. She had all the appearance of rickets, from which she had suffered in infancy. Her height was about four feet (1 *mètre*, 12 *pouce*), her lower extremities were short and deformed, the tibiæ being bent forwards, and the femurs outwards.

She had reached her full time; and had been in labour twice. 3 A.M.—The os uteri was dilated to the extent of three inches, (eight centimetres), and the membranes had not broken. The sacro-pubic diameter was twenty lines, (forty-five millimetres).

The Cæsarean section was immediately determined upon, and performed, by M. Lebleu, in the presence of many medical men. The incision was made along the course of the linea alba, commencing at the distance of half a line (one millimetre) from the umbilicus, and extending to within an inch (three centimetres) of the pubes, including successively the super-imposed layers over the uterus, the uterus itself, and the membranes of the ovum. Extraction of the infant followed, and that of the placenta immediately afterwards. The hernia of the urinary bladder and intestines which had occurred was speedily reduced. Three sutures were introduced, sticking-plaster applied over four-fifths of the anterior parietes of the abdomen, and lint dressings.

Next morning, the 11th, the pulse was at 90, there was slight lochial discharge, and no discharge from the wound. At mid-day she vomited; at 5 P.M. there was fever, abdominal pains, with pulse at 130. She was bled to ℥xviij, (700 grammes) and had first forty, and then thirteen leeches applied to the abdomen.

12*th*. Considerable improvement; pulse 110; pain nearly subsided; several hours of sleep. Two folds of intestines which had protruded through the wound were reduced, its lips were approximated, and retained by broad and long strips of plaster, which nearly surrounded the body.

13*th*. Pulse 100; she passed an excellent night; no more pains nor vomiting; two stools; lochia abundant; wound nearly dry.

14*th*. Amendment progressing. A couple of spoonfuls of *bouillon* every three hours.

15*th*, 16*th*, 17*th*.—Condition most satisfactory. An improved diet prescribed.

23*d*. The patient sat up for several hours in an easy-chair. The wound, which is healing from the bottom, is dressed every third day.

29*th*. The patient was discharged in good health, with the wound almost entirely cicatrized.

In a few days it was entirely so.

The child was brought into the world alive, and was put to the breast of a nurse. At present it is quite healthy.—*Encyclographie Médicale* for February 1843.

Dr Coley and the Cæsarean Section.

We have found on our table the account of another Case of Cæsarean Operation, published as a pamphlet, and accompanied with *Pathological Remarks on Puerperal Metritis*, by James Milman Coley, M.D., pp. 29, price 1s., printed at Bridgnorth, and published by Longman, Orme, and Co.:—but *when* is not stated.

It is a narrative, in every respect, a contrast to the preceding case; and, in its details, is exceedingly discreditable to all the parties concerned. It is clearly

got up not for the profession, but for the public; few of whom, we should think, could be thus deceived. We look upon it as decidedly beneath our criticism.

ANTEFLEXION OF THE UTERUS.—NEW TREATMENT.

A young woman of good constitution was admitted into hospital, under the charge of M. Velpeau, on account of an affection of the uterus, of eight months' standing, accompanied with severe pain in the loins, a sensation of weight in the pelvis, and shooting pains at the upper part of the thighs. These symptoms appeared after menorrhagia, probably caused by a miscarriage. On examination by the vagina, M. Velpeau discovered the os uteri in its normal position, and a tumour projecting towards the anterior wall of the vagina. The speculum threw no additional light on the subject: a few granulations only were discovered on the os tincæ. Pressure on the hypogastrium increased the size of the tumour. Nothing could be discovered by the rectum, and the bladder appeared healthy. M. Velpeau gave, as his diagnosis, anteflexion of the uterus, that is, incurvation of the body of that organ forwards, the os uteri remaining in its natural position, the uterus assuming the shape of a cucumber. Rest being prescribed, M. V. proceeded to rectify the shape of the uterus in the following manner: an elastic gum sound, considerably curved, and containing a strong wire stilet, was introduced into the cavity of the uterus, by passing it along the index finger, until it reached the os tincæ; the concavity of the instrument was directed from below upwards, and an assistant made strong pressure, with the hand, over the hypogastrium. When fairly introduced into the cavity, the instrument was gently turned on its axis, so as to place the convexity upwards, and the concavity downwards. The handle was then lowered, and pressure made from before backwards, and from below upwards, so as to depress the uterus, the latter being, by this means, disengaged and elevated. M. V. caused it to swing backwards, and retained it in that position as long as the sufferings of the patient would permit. This was repeated several times, with a few days' interval between each operation; and the patient always felt relieved by it. At this date, the sixth week of treatment, the pains have disappeared, the tumour is diminished in size, and the sound enters more easily. The woman, considering herself cured, left the hospital.

Inflexion or curvature of the uterus, although rare, has been met with sufficiently often, both in the living subject and the dead, to render its diagnosis henceforth tolerably easy, more especially in those cases where the inflexion is considerable, and accompanied with marked symptoms. This morbid condition has been often witnessed by M. Velpeau, so that its rarity is more apparent than real, and may be attributed to the little attention paid to its diagnosis. It is hardly necessary to state, that curvature must not be confounded with those other deviations, named anteversion and retroversion. These two latter states may be recognised by the position of the neck; in some cases this is the only distinctive character, as the general symptoms are very much alike in both cases. It must be acknowledged, however, that we are still deficient in a correct knowledge of the disease, especially as regards its etiology; as to its treatment, every thing has yet to be done. In treating this affection, Desormaux and Deneux were in the habit of using sponge tents; but they were found to be both insufficient and difficult of application. The new method invented by M. Velpeau is one of great power, especially when a metallic instrument is used, made of such materials as to be capable of having its curve altered to a straight line after its introduction. Such kinds of bougies have already been made, and all that is necessary is their application to the cases in question, unless the gum sound, with a wire stilet, as used by M. V., be preferred; he is at present engaged in having a special instrument constructed for the purpose. In calculating the effects of the treatment in the patient whose case we have related, allowance must be had for the natural effects of quiet and rest. It is, indeed, probable that a great part of the honour of her cure belongs to the maintenance

of these conditions; and it is quite possible that the disease may return, when she resumes her usual occupations.

[Our readers are aware that the treatment of M. Velpeau, as described and recommended in the above extract, is not peculiar to him; but was long ago explained in the pages of this Journal, by its originator, Professor Simpson of Edinburgh. We are surprised to find a gentleman who—as his writings testify—is so well acquainted with our pages as Dr Rognetta, committing the oversight of penning, or sanctioning, the above Editorial article, without even mentioning Dr Simpson's name; and this is the more remarkable, because the substance of Dr Simpson's memoir, to which we refer, was quoted in the leading Continental journals; and, if we are not greatly mistaken, by the very journal—the *Annales de Thérapeutique*—which our esteemed colleague, Dr Rognetta, so ably conducts. To show how clearly M. Velpeau has been anticipated in all that regards the "nouveau mécanisme réductif," said to be devised ("imaginé") by him, we beg to subjoin a few lines from an abstract of a paper read before the Medico-Chirurgical Society of Edinburgh, on the 19th April 1843, by Dr Simpson, entitled "*Proposals to advance, in various ways, the Diagnosis and Treatment of Uterine Diseases, by the introduction of instruments into the cavity of the organ.*" The abstract from which we quote was printed in our Number for July 1843, p. 660; and the entire Memoir afterwards appeared among the Original Communications:—"Lastly, as one of the most important of all its applications, Dr Simpson demonstrated, that the Uterine Bougie, by showing the direction of the uterine cavity, and hence of the uterus itself, and by its enabling us, when it is introduced, to change at will the position of the organ, afforded a simple means of detecting those displacements of the unimpregnated uterus, known by the names of retroversion and retroflexion, anteversion and anteflexion—states which Dr Simpson farther showed were very common, and which, from the want of any proper means of diagnosis, had been almost constantly mistaken for fibrous, carcinomatous, and other tumours situated between the uterus and rectum, or between the uterus and bladder." . . . "In cases of retroflexion and anteflexion of the unimpregnated uterus, the organ can with facility be temporarily restored to its normal position and relations, by turning the uterine bougie, when used as a means of diagnosis. Dr S. proposed to maintain and fix the bougie in the uterine cavity for a length of time, as a means of cure," &c. &c.—Monthly Journal, *ut supra cit.*]

Dimensions and Forms of the Neck and Mouth of the Uterus. By Dr J. Boys de Loury, Principal Surgeon of St Lazare, and Dr H. Costilhes, formerly Interne at St Louis and St Lazare.

It is extremely difficult to determine what we ought to consider as the proper Dimensions of the Neck and Mouth of the Uterus. It is generally believed, that in women who have had children, the cervix is much more bulky, and that the orifice is much more gaping. Our experience has shown us, that this rule is far from being without exceptions. We have seen women who were the mothers of several children, with the *os* small, uneven, and the *cervix* of no greater bulk than is common in those who have never been impregnated. With respect, also, to age, there exists a difference in the dimensions of the neck: for, as exceptional cases, we meet with women in the decline of life, who have it larger than in youth. It appears, then, that it is by no means easy, to lay down the dimensions of the uterus, with reference to its physiological state; and we are quite certain, that physicians sometimes consider that to be an engorgement, which is only a healthy condition; and at other times, regard the neck of the uterus as being in a normal state, when, in reality, it is engorged.

The smallest cervix which we have seen had, at the base, for its greatest or transverse diameter, 1½ centimetre, and for its antero-posterior diameter, 1 centimetre. The cervix of greatest size, free from engorgement, is always at least 3 centimetres in breadth, with an antero-posterior diameter of 2 centimetres. This difference between these diameters gives an *oval* form to the neck;

so we hold, that when the antero-posterior diameter is augmented, there exists engorgement. For example, if the transverse diameter be 2 centimetres, and the antero-posterior diameter have the same dimensions, we conclude that the neck is engorged; and if, in such a case, the *os tincæ* be examined, it will be found that it is not in the centre, from one of the lips being more swollen than the other. In engorgements following abortions, we have found the transverse diameter of the cervix so great as from 4 to 5 centimetres. In the healthy state, the neck usually presents the form of the segment of an ovoid, and sometimes, though rarely, a conical shape: in the latter case, it projects very much into the vagina. This conical and salient condition of the cervix is very often met with in barren women. Contrasting with this class of cases, are some in which the neck is almost absent, and the *os tincæ* feels as if it were a continuation of the vagina, giving rise, in some instances, to the belief, that either the anterior or the posterior lip is wanting.

It may be stated, with reference to the size of the mouth of the womb in *women who have had neither abortions nor children*, that its transverse diameter never exceeds 5 or 6 millimetres, when it is, as usual, linear. If the *os* be rounded, the transverse diameter seems to be so much diminished. In a very few rare cases, the diameter of the mouth is not more than 1 millimetre.

In women who have borne children, the diameter of the mouth of the womb always becomes enlarged transversely, but often not to any very great extent. Its margin is almost invariably fringed with some or more round bodies, which give to it a torn appearance. It sometimes happens that the orifice remains gaping to such an extent, as to allow a centimetre of the interior of the cervix to be seen; but, on the other hand, it must be stated, that we have seen the mouth, in those who have had several children, differing in no respect from those who have never conceived.

In *pregnant women*, the lips—as has been remarked by M. Marc d'Espine—are soft and swollen, and the opening between them is so wide, as to allow the finger to get pretty far into the cervix.

Authors say, that in *women who are menstruating, or are about to menstruate*, the finger can be introduced within the cervix. This statement does not accord with our observation; for in a great many women, whom we have examined when in the state referred to, we could detect no difference in the diameter of the mouth of the uterus.

The position of the cervix is by no means uniform. Authors do not attach sufficient importance to this diversity of position. During several months, we were engaged in examining a great many women, with the view of throwing light upon this point; and we may remark, that great experience is required, before one can detect by the touch, certain of the less marked obliquities. We have rarely found the *cervix uteri* occupying a central place in the vagina. Generally, there is more or less version forwards of the body of the organ, constituting what is termed *anteversion*. This deviation occurs as two to one of any other. Combined with anteversion, there is very commonly a *lateral obliquity;* and this is most frequently to the left side. This kind of displacement often exists to such an extent, that the *os uteri* is brought into contact with the roof of the vagina, so that in practising the *toucher*, one feels a rounded surface without an opening; and if the finger be not carried round the neck, it might be supposed to be in its normal situation. Here, let us note the importance of the *toucher*. Most commonly, in examining with the speculum, the instrument will restore the organ to its proper position, and this kind of displacement—anteversion with obliquity—which is often the cause of the pain and other pelvic symptoms for which the practitioner is consulted, will escape notice.—*Gazette Médicale* for 14th June 1845.

[We have translated the above in a slightly condensed form, from the first of a promising series of papers in course of publication in the *Gazette Médicale*, entitled, "*Recherches Cliniques faite à L' Hôpital Saint Lazare*, (*Maladies des Femmes,*) *sur les Ulcérations du Col de l' Uterus, sur les Chancres Chroniques des Parties Génitales, les Bubons, l' Urétrite, la Vaginite, &c.*

It would not be fair to bring against the above conclusions a few exceptional cases, which we have met with; seeing that we are told, that the authors write from three years clinical study of their subject, during which time they have laboriously investigated the cases of 1748 hospital patients. It is important, however, that the reader should know the description of persons who are admitted into St Lazare, and the nature of that Institution. The following account is taken from the introduction to the memoir before us.

"St Lazare contains three Infirmaries. One is destined for female prisoners; another is for the punishment of young girls; and the third is for women subjected to the police regulations. The two first services are under the charge of Dr Collineau. The other, which contains 300 beds, is under MM. Delamorlière and Boys de Loury: it forms the hospital; it is separated from the rest of the buildings by a large court; and on the other side of it there are extensive grounds. With regard to salubrity, St Lazare is one of the best situated of the Parisian hospitals; the wards are spacious, well ventilated, and in every way comfortable. Two-thirds of the patients are prostitutes; the rest are chiefly of the working class, peasants from around Paris, and females who have come up to Paris from the provinces, in the hope of getting situations as domestic servants. The patients vary exceedingly as to age. In our wards we constantly see children of 14, or 15, and women of past 60, but the greatest number are between 18 and 28."]

Rupture of the Fallopian Tube. By Professor Svitzer.

Anne C. G., aged 37, the wife of an innkeeper, was robust and active from her childhood. She was the mother of six children, all of whom she nursed. Nothing abnormal took place at any of her confinements. Her last child was born two years ago; and since that event she has menstruated regularly.

On Thursday the 9th October 1844, Mr Woldbye was called to her, when he found her suffering from pains in the loins, extending down to the pubes. The lower part of the abdomen, especially the left hypogastric region, was very tender on pressure; the pulse was 90; the tongue was dirty; and the head ached. She had a stool that day. For 14 days she had been expecting to menstruate. Antispasmodics were fruitlessly administered; fomentations and leeches were also applied without success. On the following day, when I was called in, the lower part of the belly was swelled, and so tender as not to admit of pressure. She had restlessness, vomiting, and other alarming symptoms. The pulse rose to 130. The treatment consisted chiefly in bleeding, and the administration of calomel, and occasionally anodyne enemata. At one time the symptoms became milder; this was after she had taken 20 grains of calomel. She died on the 20th October.

Autopsy.—On the following day the abdomen was opened. The peritoneal covering of the womb and intestines was strongly injected with blood; and here and there upon it, there were to be seen small blackish melanotic-like spots. All the intestines were dark coloured and much distended. Their mucous surface was in many places thickened, and covered with ulcers roundish in form, and deep in the centre. Towards the left iliac region was to be seen a large coagulum of extravasated blood. This sanguineous mass filled the pelvis, covered part of the descending colon, and had the uterus imbedded in it. The blood having been cleared away, the uterus was cut out, with all its ligaments, &c., attached. It was found that this organ was of the average size which it possesses in women who have borne several children. The ovary, Fallopian tube, and round ligament of the uterus on the right side, were normal. The left half of the uterus, with the parts attached to it, were larger and more distended than those on the right side; and the ovary and Fallopian tube lay somewhat lower than on the right side. The ovary was less than its fellow, and uneven on its outer surface. The round ligament was normal. The Fallopian tube bulged out at its middle to the size of a walnut. A careful search having been made for the origin of this hemorrhage, it was traced to a gap in the left Fallopian tube. A probe, introduced at its fimbriated extremity, passed into the coagu-

lum; but it could not be passed up into it, from the corner of the uterus. When the examination had proceeded thus far, the uterus was divided longitudinally; the whole of the mucous membrane and *arbor vitæ* were found to be unaltered. A layer of lymph-like substance of about the thickness of the pleura, lined the cavity itself.

Remarks.—In reviewing this case, it appears, that only two explanations can be given of the proximate cause of the hemorrhage.—1*st*, It may have resulted from accidental rupture of the tube, and thereby of its vessels; or, 2*d*, The cause of this rupture may have been from a miscarried tubal pregnancy. It was ascertained that the woman had not sustained any outward violence. I think that if the case was one of accidental rupture from an unknown cause, the stream of blood would have been very small in consequence of the fineness of the vessels of the parts. The following are the grounds upon which I consider it as not improbably an example of tubal pregnancy:—1*st*, This woman had been in the habit of menstruating regularly, but she had on the last occasion passed her regular period by 14 days; and during this six weeks which she had thus been without menstruating, her husband owned to me that he had often had connection with her. 2*d*, The Fallopian tube was pervious only towards its fimbriated extremity, but not towards the uterus. 3*d*, Moles, though they have lain in the cavity of the uterus, often present themselves to our notice, as mere lumps of coagulated blood. It may therefore be asked, Was not the hemorrhagic effusion in this case something of the same description? 4*th*, Moles often manifest themselves as clots of blood, so that this may have been a mole. 5*th*, The size of the coagulum in the tube was about that of a walnut, or, in other words, of an embryo of six weeks. 6*th*, The oval form of the swelling was what it would have been with an inclosed embryo or mole. 7*th*, In tubal pregnancy the embryo generally perishes before the fourth month.

The close union and connection which existed between the coagulum and the inward surface of the expanded and ruptured tube, appears to me to evince a previous more lengthened natural process, than what might properly be expected from the rupture of a small vessel, and the consequent collection of blood. The flow of blood in abortions, even in the first months of pregnancy, is very strong, as the embryo by its constant position for a long time on one and the same place, always causes great vascularity on the inner surface of the uterus.

In a case of interstitial pregnancy, I have likewise found coagulable lymph (*decidua?*) in the cavity of the uterus. There is also a report of the same by Professor Meyer, in Froriep's Journal, iv. hefte, as well as another, by Professor Schmitt in the same place. It also occurs to me that the late Councillor Saxtorph mentioned in his lectures, that in extra-uterine pregnancy, there was always found such a membrane in the uterus.

In *Neue Zeitschrift für Geburtskunde*, ii. Band. p. 88, Berlin, 1835, a report is to be found of a case observed by D. Jacobsen in Koenigsberg, which has much resemblance to this. *Only a mole lay in the Ostium abdominale Tubæ Fallopii, so that a part hung down in the lower part of the belly and a part in tube.* On incision in the tumour itself, there was seen in the inside a fine transparent smooth membrane, which was filled with coagulated blood that lay in rows. No trace of a child was discovered.

In *Magazin für die gesammte Heilkunde* von Rust. Berlin, 1836, 23 Band. 3 heft, p. 515, a similar case is also related. The tumour was likewise in the middle of the tube, and burst upwards towards the upper side. It was delineated, but the ovulum, which was not described in the text, appeared rough on the outside and with a smooth membrane in the inside—to judge by the representation.—*Bibliothek for Læger*, No. I. of 1845.

FORENSIC MEDICINE.

General Poisoning of Patients at Beaujon Hospital by Bad Meat.

A serious culinary event lately threw the inmates of the Beaujon Hospital into a state of the greatest alarm. On the 15th April, the patients, sisters of charity, clerks, and officials, were all, of a sudden, and nearly simultaneously, seized, a few hours after dinner, with the most atrocious colic, frequent copious purging of a bloody fluid, and painful tenesmus. An attack of cholera seemed to have broke like a thunderbolt over the hospital. In many the symptoms were exceedingly severe. It was evident that poison had been communicated with the food. Chemistry was called in to throw light upon the mystery: soups, vegetables, and meat were seized, stools were set aside, sisters interrogated, and servants suspiciously looked at; and at last the whole question was submitted to the little oracle of Marsh, a kind of automaton with a glass sceptre in its hand, but which, notwithstanding, does not always speak the truth. Copper soon appeared under the hands of the operator, and great was the cry, Honour unto chemistry! Pots and pans were immediately accused of treasonable imperfections. This result, however, did not satisfy every one; many of the patients who had partaken of the same food entirely escaped. One of the sisters, the superintendent of the kitchen, began to suspect that the whole might be owing to the meat. She recollected that two kinds had been made use of—a shoulder of beef, and a leg of beef—and that it was only those who had partaken of the latter, who had suffered. Some of the leg still remained; it was cooked, and again partaken of; the same symptoms ensued, and the sister nearly lost her life. Nothing of the kind occurred with the shoulder. It was therefore evident, that the former was unsound and unhealthy beef. *Meat of this nature generates a quantity of ammonia, which, in spite of the tinning, attacks the copper, hence, the formation of ammoniuret of copper, which passes into the broth, and is superadded to the deleterious principle of the meat itself.* It appears that on the day of the accident, the contractor had sent to the hospital a quantity of meat, the cellular tissue of which was injected, and evidently diseased; it was accordingly rejected by the superintendent. The contractor immediately thereafter repaired to the slaughter house, and killed an ox, which, as reported, had just come off a long journey; it was consequently in that febrile state, technically called by butchers, *heated;* and the portion of it which he brought to the hospital still reeking, was also rejected. He then appealed to the Central Administration, which, *without any previous inquiry*, ordered it to be accepted. This meat, was the cause of all the disasters.—Abridged from the *Annales de Thérapeutique*, May 1845.

Health of Towns.

In the Report to the Health of Towns' Commission, Dr Lyon Playfair gives the following curious evidence, which contains useful hints :—"Liverpool has 65 scavengers; its chief streets are swept once a-week; the cost of scavengering is L.4820, the amount obtained per annum for refuse is L.1150. Manchester has 78 scavengers; its streets are also swept weekly; the annual cost is L.5600; the amount obtained per annum for refuse is L.800. Edinburgh has 115 scavengers; its streets are swept every day; the annual cost is L.12,000; the amount obtained for refuse is L.10,000. Glasgow has 64 scavengers; the principal streets only are swept daily, the others are less frequently; the annual cost is L.2759, the amount obtained for refuse is L.1100. Aberdeen has 51 scavengers. Saving in this branch of civic economy is far from wise. In the preservation of streets and roads, frequent scavengering proves a positive and direct economy of public money; and in the prevention of disease, an evident, though no less certain, saving of public burdens."

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 482 of June Number.)

SESSION XXIV.

TENTH MEETING.—*Wednesday, 4th June* 1845.—DR GAIRDNER, P., in the Chair.

CASE OF SANGUINEOUS EFFUSION INTO THE CHEST, IN CONNEXION WITH EXTERNAL INJURY AND PULMONARY APOPLEXY. BY DR PATERSON, LEITH.—The subject of this case was a woman, aged about 37, the mother of a large family, a person who was quiet and regular in her habits. On the evening of the 26th January, she was beaten and kicked severely by her husband, and from that time she complained of a severe pain in the right side, just over the cartilages of the seventh and eighth ribs. On the morning of the 31st, she was suddenly seized with increased pain in that side, and symptoms of great depression of the powers of life. From this state she slightly rallied; but symptoms of effusion into the chest having made their appearance, and given rise to dyspnœa, an opening was made into the chest, at the end of ten days from her sudden attack. About a pound of pure blood was drawn off, which gave no relief, and she died calmly, 13 hours after the operation, 11 days after her sudden seizure, and 17 days after the infliction of the injuries.

Post-mortem examination revealed no fracture of the ribs, no swelling, and no echymosis over the seat of the injury. The right side of the chest contained about 6 imperial pints of bloody fluid. The right lung was everywhere shrivelled, and compressed into the upper and posterior part of the chest: it contained at its lower part, and opposite the side of the injury, a mass of pulmonary apoplexy, in the centre of which was a soft coagulum, communicating with the pleural sac, through a small opening, with ragged edges, and of such a size as could not admit an object larger than a crow-quill. In the pleural sac there was much adventitious inflammatory tissue, mixed up with blood. The question arose:—Did the woman die from the injuries which she had received, or from pulmonary apoplexy unconnected with the injuries? Various reasons were given in favour of each view of the case. In consequence of its having been stated, that there had occurred cases in which precisely similar appearances had been described as unconnected with external injury, the husband escaped punishment.

ON THE ARTIFICIAL DISPLACEMENTS OF THE BONES OF THE FEET IN CHINESE FEMALES: WITH A SPECIMEN. BY PROFESSOR SIMPSON.—[This communication will appear in an early number along with an illustrative wood-cut.]

ON A TUMOUR OF THE TESTICLE, CONTAINING AN OSSEOUS MASS, AND COVERED WITH INTEGUMENTARY MEMBRANE AND HAIRS. BY JOHN GOODSIR, ESQ.—[This communication will be found at p. 533 of the Periscope of this Number.]

Case of Separation of a Portion of Intestine. By William Hill, Esq., Portobello.—[We have been favoured with Mr Hill's MS., which will appear as an Original Communication in an early number.]

Modification of Chest Callipers. By Dr Spittal.—Dr Spittal exhibited two pairs of brass Callipers, similar to those described by Drs Walshe and Stokes, for ascertaining the diameter of the thorax. The one had a fixed, the other a moveable spring for the purpose of keeping the blades, with their flat disks or button-like extremities, applied to the chest; and both had a graduated scale below the attached extremity of the blades. Dr S. called the attention of the Society to a modification which he had found advantageous in using the instrument, viz. *enlargement of the disks*, which should not be less than from two-thirds to one inch or more in diameter, and rendering these *moveable* in the direction of the motion of the limbs of the instrument. By this arrangement, the extremities of the callipers always adapt their flat surfaces to the thorax; whereas, when the disks are fixed, their edges, in certain measurements, are presented to the chest, and sinking into the soft parts, render the observation less accurate; a like objection of course applying to disks of small size. The amount of the movements of elevation and depression of any part of the thorax during respiration, is very easily ascertained by this modification, the moveable extremities of the instrument following the motion of the chest, the exact range of which is shown by the corresponding movements of the index over the graduated scale.

New Members.—Dr MacRitchie, H.E.I.C.S., and Dr Alex. Hunter, F.R.C.S.E., were admitted Ordinary Members, and Dr John Anderson, of Birkenhead, a Corresponding Member of the Society.

BOOKS RECEIVED.

N.B. Exchange Journals are not acknowledged, as the constant repetition of their names would occupy too much space.

(Continued from page 484 of the June Number.)

74. Pulmonary Consumption successfully treated with Naphtha; with Cases from other Medical Men in support of that Treatment; and an Appendix, showing the utility of puncturing Tuberculous Cavities, as an adjuvant in the cure of Phthisis. *Second Edition, revised and enlarged.* By John Hastings, M.D., Senior Physician to the Blenheim Street Dispensary. 8vo. Pp. 260. London: 1845.

75. Lectures on Animal Heat. By Thomas Spencer, M.D., Professor of the Institutes and Practice of Medicine in the Medical Institution of Geneva College. 12mo. Pp. 114. Geneva, N. Y.: 1845.

76. De Syphilide Kali Hydriodico tractata, Dissertatio, quam pro licencia summos in medicina honores rite capessendi publico eruditorum examini subjiciet auctor, Martinus Hassing, Medicus secundarius Nosocomii Communis et Legionis Civilis Hauniensis. Die II. Aprilis h. l. q. s. 12mo. Pp. 92. Hauniæ: 1844.

77. Index Lectionum in Universitate Regia Hauniensi per semestre æstivum a kalendis Majis A. MDCCCXLIV habendarum. 4to. Pp. 8. Hauniæ: 1844.

78. Guide to the use of the Buxton Waters. By W. H. Robertson, M.D., Physician to the Buxton Bath Charity. 16mo. Pp. 32. London: 1845.

79. An Inquiry into the Physiological and Medicinal Properties of the Aconitum Napellus; to which are added Observations on several other species of Aconitum. By Alexander Fleming, M.D. 8vo. Pp. 160. London: 1845.

80. Hints to Mothers, and other persons interested in the Management of Females at the age of Puberty. By Jonathan Toogood, Licentiate of the Royal College of Physicians, Senior Medical Officer of the Bridgewater Infirmary. 8vo. Pp. 20. London: 1845.

81. A few Words on the Claims of the Medical Profession upon the Public. By John Robertson, M.D. *Second Edition, revised.* 8vo. Pp. 8. London: 1845.

82. Chemistry, Meteorology, and the Function of Digestion, considered with reference to Natural Theology. By William Prout, M.D., F.R.S., Fellow of the Royal College of Physicians. *Third Edition.* 8vo. Pp. 515. London: 1845.

83. Practical Notes on Insanity. By John Burdett Steward, M.D., Fellow of the Royal College of Physicians; for ten years Physician to the Droitwich Lunatic Asylum, Worcestershire. 12mo. Pp. 122. London: 1845.

84. An Essay on Marriage; being a microscopic investigation into its Physiological and Physical Relations; with Observations on the nature, causes, and treatment of Spermatorhœa, and the various disorders of the Procreative System in Man. By R. Dawson, M.D. Pp. 102. London: 1845.

85. The Medical Directory of Great Britain and Ireland for 1845. Compiled and Edited by a Country Surgeon and General Practitioner. London: 1845.

86. Physicians, Surgeons, Druggists, and Quacks. By Surgeon Snipe. London: 1845.

87. Prize Clinical Reports. By John Moore, Esq. 8vo. Pp. 65. London: 1845.

VARIETIES.

Edinburgh, 19th June 1845.

OCULAR INSPECTION OF DISEASES OF THE GLOTTIS.—We have been requested by Dr Warden to give place to the following letter, which he has addressed to us. —"DEAR SIR,—My time has been so much taken up with the treatment of affections of the ear, as to have prevented me from preparing the continuation of cases and observations promised for your Journal. It may be interesting, however, to mention that I have had two opportunities of satisfactory ocular inspection of diseases affecting the glottis, and which I beg briefly to announce to you; but, as in both cases the information of the state of disease was of a negative kind, proving the absence of suspected ulceration and polypus excrescence, there was not occasion for testing the serviceableness of the prism, for guiding the application of directly topical remedies. In both cases, I had the assistance of my friend Dr Spittal.

CASE. Mrs J. had been the subject of medical treatment for chronic inflammation of the pharynx, of nearly a year's duration, and which had lately spread in the direction of the glottis, attended with painful deglutition, and paroxysms of suffocative cough. On account of the latter complication supervening, she was sent from the country here for advice. On inspection, there was seen a general velvety hypertrophy, and crimson injection of the mucous membrane covering the fauces and pharynx, while, as is generally the case in chronic inflammation of the mucous tissue, the sensibility of the parts bore no proportion to their high vascularity. The fits of cough were described as accompanied with dyspnœa threatening strangulation, and terminating in the elimination of a very tenacious stringy mucous, proceeding distinctly from the upper part of the throat. The patient was placed opposite to me for observation on a common chair by the side of a table, on which stood a powerful argand lamp, with a large prism attached, so as to throw the full light of the lamp into the fauces and pharynx. After the preliminary examination, and quieting the irritability of the parts by touch with the fingers, there was no longer any impediment or inconvenience experienced from the tendency to retching. The dilator faucium was employed to depress the tongue, and expand the isthmus of the fauces; the port-prism, with the heated prism attached, was then conveyed along the dilator, to occupy its place in the pharynx, and complete the arrangement for observation.[1] The epiglottis was immediately seen to be

[1] The instrument and its several parts were some time ago exhibited at the Medico-Chirurgical Society of Edinburgh.

nearly three times its natural thickness, and to be covered with the same vividly injected mucous membrane which invested the neighbouring surfaces; but it was only when efforts to swallow were made, or repeated, that the arytenoid cartilages and glottis, in a similar condition of thickening, were raised out of concealment, and brought brilliantly to show their picture in the reflecting face of the prism. Observation was thus repeated and suspended at intervals, by the momentary dimness of the prism during expiration, until full information was obtained, that there was neither polypus excrescence nor ulceration, calling for direct surgical applications, but only such a condition of disease as will still be amenable to ordinary treatment by leeching and counter-irritation.

The appearances in the other case were so far similar as to render their detail unimportant, especially as my object is chiefly to communicate an illustration of the method employed in this kind of observation. The experience afforded by both gives ground for the same conclusion, that the instrument made use of can have no farther range than the bottom of the pharynx and mouth of the glottis, and of the latter only so often as it is raised from its natural depth by the contraction of the muscles employed in the act of deglutition. By this means, therefore, namely, reflection from a prism or mirror placed on the pharynx, we can obtain no assistance in the investigation or treatment of disease below the pharynx. If we would carry observation farther, it must be through a straight tube passing from the mouth directly into the gullet.—I remain, dear Sir, faithfully yours, ADAM WARDEN.

GANGRENA SENILIS.—THE NEW TREATMENT. Though not so presumptuous as to undertake the correction of all the errors of our cotemporaries, we cannot abstain from noticing those which have especial reference to our own statements.

In the *Lancet* of June 21st, there is a laboured attempt to show, that the claim which we felt called on to make in favour of Mr Syme, to the introduction of the present mode of treating *gangrena senilis*, was founded upon imperfect acquaintance with the progress of Surgical Science. It is said that Sauvage, Marjolin, Avisard, Broussais, Dupuytren, Delpech, Dubreuil, Bouilland, and Cruveilhier—whose books are of course beyond *our* reach—had adopted the practice in question. Now, all of these authorities maintain the grand remedy to be, depletion by local and general bleeding. They regard the disease as of an inflammatory nature, requiring to be combated by the means ordinarily employed for subduing inflammatory action. The view taken by Mr Syme is entirely different. He regards the limb affected, as in a condition similar to that of one in which the principal artery has been tied. He would no more think of applying leeches, than of using stimulating applications. In short, he treats the limb as if it had been subjected to operation for popliteal aneurism.

To the silly sneers of the person who dates his letter from Edinburgh, and ventures to assume the respectable title of "*Chirurgus*," contemptuous silence is our reply.

AMIABILITY *v.* CANDOUR.—Our transatlantic colleague, the "*Medical Examiner*," of Philadelphia, is very amiable. In our number for February last, we proved that a book termed "*Smith's Minor Surgery*," published in Philadelphia in 1843, was a mutilated reprint of "*Cutler on Dressings and Bandages*," published in this country in 1834. We introduced our exposure of this flagrant and impertinent plagiarism, by the following sentences, which our brother pretends to accept as a string of compliments, and most delicately avoids any allusion to their being the prelude to an accusation against his townsman, Mr Smith,—of reprinting a British work, as an original work of his own, without even a casual mention of the name of the true author. We subjoin the sentences which our American brother quotes, as well as his commentary upon

[1] Vide MONTHLY JOURNAL for March 1845, p. 248.

them:—"The American publishers," we said, "inherit in an eminent degree the peculiarities of their nation. They are an enterprising, 'go-a-head,' generation. No sooner is a work of merit, or one from an author of reputation, ushered into the world, than forthwith, by the instrumentality of indifferent types, and worse paper, it is disseminated throughout the length and breadth of the New World. The most common and popular plan of proceeding, is to append notes by some writer whose name is familiar, so as to bring the work to a level with the state of knowledge in the United States." The following is the commentary:—"That 'no sooner is a work of merit, or one from an author of reputation, ushered into the world,' than 'forthwith it is disseminated throughout the length and breadth of the New World,' is a compliment to the reading habits of American physicians, greater than we are accustomed to hear from that quarter, and one which we should be glad to reciprocate. As to the 'indifferent types and worse paper,' we must confess that we are somewhat at fault, but are rapidly mending, even in that respect; indeed some of the American reprints of British works have actually exceeded the originals in these very particulars. The practice alluded to, of 'appending notes by some writer whose name is familiar to American ears,' is certainly becoming 'a common and a popular plan,' but one to which we can see no possible objection, provided the notes are by those who are conversant with the subjects on which they write, and are apposite."—*Medical Examiner* for April 1845, p. 226.

We again repeat, that it is very amiable in our colleague to conceal, that our remarks were made in connexion with a charge of audacious plagiarism, which we brought against his townsman, Mr Smith, viz.—that he reprinted the greater portion of a book, without mentioning the name of the author, and substituted for it his own on the title-page.

DEATH OF BRESCHET.—This celebrated Anatomist and Surgeon died at Paris, on the 10th of May, in the 62d year of his age, after a lengthened illness; and was buried at Père la Chaise with much ceremony. Deputations from all the scientific and medical bodies—of most of which he was a member—were present at the funeral: and orations were pronounced over his grave by MM. Ferrus, Andral, Pariset, and Cruveilhier.

QUACK ADVERTISEMENTS.—The nuisance of Quack Advertisements "has increased, is increasing, and must be diminished." So far as their immorality is concerned, all classes of the community are interested; for it is no light matter that almost every newspaper or magazine that is taken into a family contains advertisements setting the laws of decency at defiance. So far as public health is concerned, all classes are also interested; as it is obvious, that the deleterious trash so largely partaken of by our countrymen, not only predisposes to disease, but positively augments mortality. So far as the success of quackery indicates the extent of popular ignorance, all are concerned; as the intelligence of that nation must be retrograding which believes that the thousand and one nostrums, yclept patent medicines, are universally curative. So far as the progress of science is concerned, the medical profession is directly interested; as there cannot be a doubt, that the incessant trumpeting of compounds which relieve all diseases, or given distempers in all stages, paves the way for the propagation of the hydropathic, homœopathic, and other delusions of the day. A determined stand should be made against the evil, and medical men should be the first to stem the current. They are large in number, and influential in position; and if they could be persuaded to make a bold effort, they might be the means of conferring a substantial benefit on society. The unhallowed gains which newspapers derive from quack advertisements are too extensive to be parted with all at once. But "divide and conquer." Let those prints which insert indecent advertisements be the first objects of attack, and when the period of payment comes round, let the paper be stopped, unless the obscenity be stopped. Make your determination known, and many a father will join with you. The members of the fourth estate may talk large; but they are vulner-

able when finance is concerned. Put down indecency, and then absurdity may follow. The method is simple: let it be tried.

Starving Scotch Universities.—The University of Edinburgh receives some L.1200 a-year in the shape of government allowance, and returns about L.1000 for stamps! But of this more anon.

Mr Lawrence.—We observe that Dr Forbes, a Scotch clergyman, lately stated at a presbytery meeting, called for the purpose of opposing the abolition of University tests, that Mr Lawrence was in the practice of advancing infidel remarks in the course of his lectures. We believe Mr Lawrence to be too much of a gentleman to do anything of the kind.

Wakley *versus* the Medical Times.—In the Court of Exchequer yesterday, (20th June,) Mr Wakley obtained a verdict in an action against Messrs Healy and Withers, for a libel in the *Medical Times*. The libel consisted of a letter signed "Vindicator," couched in language obscure, homely, turgid, and verbose, but meant to be "strong," and affecting to suggest to Mr Wakley means for disproving the "infamy" that attaches to his reputation. This was published by the journal as a "clever letter." The Jury awarded L.150 damages.—*Spectator*.

Discovery of the Nine Missing Books of Galen's Principal Anatomical Work.—It is well known that Galen's principal anatomical work, called Περὶ Ἀνατομικῶν Ἐγχειρήσεων, *De Administrationibus Anatomicis*, consisted originally of fifteen books, of which only eight, and part of the ninth have come down to us. The contents of each book are mentioned by himself (*De Libris Propriis*, cap. 3, tom. xix. pp. 24, 25, ed. Kühn) from which account it appears that the last six treated of the eyes, tongue, œsophagus, larynx, os hyoides, the nerves belonging to these parts, the arteries, the veins, the nerves arising from the brain, those arising from the spinal marrow, and the organs of generation: so that Galen's account of several of the most important parts of the body is contained in the lost books. In Ackerman's *Historia Literaria* prefixed to Kühn's edition of Galen (p. lxxxiv.), we find the following notice:—"E Golii Arabicô codice libros xi usque ad xv editurum se promiserat Thomas Bartholinus, *De Libris Legendis*, Dissert. iii. p. 75 [p. 58, ed. 1711]. Erant Galeni *De Administr. Anatom.* libri sex postremi cum adnotationibus Jacobi Golii in Bibliotheca Narcissi, Archiepiscopi Dublinensis, n. 1787." No further information on the subject could Ackermann (who was a most diligent and accurate inquirer) obtain; nor apparently could Kühn himself, who, in the last volume of his edition of Galen, corrects some errors and supplies some omissions. In turning over the pages of a very different work, J. G. Wenrich's Dissertation "De Auctorum Græcorum Versionibus et Commentariis Syriacis, Arabicis, Armeniacis, Persicisque," (Lips. 1842, 8vo.) we noticed that two copies of the Arabic translation were said (p. 245) to exist in the Bodleian Library at Oxford, one consisting of fifteen books, the other only of the last six. Upon referring to Uri's Catalogue of the Oriental Manuscripts of the Bodleian (p. 135), we found that the latter manuscript was said to be in the hand-writing of Golius himself, that it had belonged at one time to Narcissus Marsh, Archbishop of Dublin, and was therefore probably the very MS. spoken of by Ackermann; and the actual examination of the two MSS. in question has shown us that the modern one was copied from the other, the pages of the original being marked in the margin of the transcript. The original MS. is written on oriental paper, and by an oriental scribe, and contains the complete work of Galen in fifteen books. It was bought at Constantinople for forty-eight florins (rather a large price), but by whom is uncertain, nor is anything else known of its history, except that it once belonged to the Archbishop of Dublin, though it does not appear in the list of his MSS. contained in the *Catalogus Librorum MSS. Angliæ et Hiberniæ*, printed in 1697. It appears to have been seen and used by Golius (a celebrated Arabic scholar at Leyden), who must have known that the Greek copies of the work contained only nine,

books, and accordingly copied the remaining six with a view to publication. He did not, however, transcribe the remainder of the ninth book, which is wanting in the Greek copies, and which is about twice as long as the portion hitherto known in Europe. The MS. was either given as a present by Golius or bequeathed as a legacy at his death in 1667, to Thomas Bartholinus the elder, Professor of Anatomy at Copenhagen, and was in his possession in the year 1672, when he wrote his work *De Libris Legendis*. Probably after his death in 1680 it came into the hands of Narcissus Marsh, Archbishop of Dublin, and appears in the catalogue quoted above. From him it came either by gift or legacy to the Bodleian Library at Oxford, where it still remains, together with the original MS. from which it was transcribed. It should be added that (as far as we are aware,) no other copy of the Arabic translation is to be found in any European library; nor do any of the old Latin translations contain the last six books of the treatise.—*London Med. Gazette*, 6th Dec. 1844.

SKETCH OF A PARISIAN HOSPITAL.—The following passage will call up painful recollections to many who are conversant with the reckless routine of hospitals, nearer home than Paris.

"The inmates of Dr Griffon's hospital had no guarantee, no resource whatever, against the scientific barbarity of his experiments; for there exists a great deficiency in the organization of public hospitals.

"The military hospitals are daily visited by a superior officer, who is charged with hearing the complaints of the sick soldiers, and relieving their grievances, if he finds them reasonable. This surveillance,—bringing a power entirely distinct from the health-service, to watch over its administration,—is excellent, and has always produced the best results; and establishments can seldom be found, which are better managed than military hospitals. The soldiers receive the kindest attention; and we might almost say, are treated with respectful commiseration.

"Why should not a surveillance, analogous to that of the military, be practised in the public hospitals, by men entirely independent of the government of the hospital and the health-service?—by a committee selected, perhaps, from the mayors or their aids—from those in short, who hold posts in the Corporation of Paris—offices which are always eagerly solicited. The complaints of the poor, if they were well-founded, would meet with an impartial tribunal; such a tribunal is, however, entirely wanting; which appears to us to be a serious evil.

"When the doors of Dr Griffon's halls were once closed upon a patient, the latter belonged, body and soul, to science; no friendly or disinterested ear could listen to his complaints. He was plainly told that, being admitted through charity, he constituted one of the experimental instruments of the doctor, and that his disease was to serve as a subject of study, observation, analysis, or instruction to the pupils who followed in the train of the chief physician. He was frequently obliged to answer questions of the most painful character, not only to the physician, but in a loud voice to an inquisitive and curious crowd. In that Pandemonium of Science, old and young, matron and maid, were obliged to forget all feeling of delicacy and shame, and to make the most confidential revelations, and to submit to the most repugnant bodily disclosures, before a large assembly. These cruelties almost universally aggravated the disease. Such conduct is neither humane nor just. As the poor enter the hospital in the sacred and holy name of charity, they should be treated with compassion and respect; for there is a certain dignity about misfortune.

"Nothing is more heart-rending than the nocturnal aspect of the vast hall of the hospital, into which we shall now introduce the reader." * * *—From the *Mysteries of Paris*, by Eugene Sue.

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29	2	7	7	50	4	10	7	29	2	3	10	50	4	3	4
30	2	8	10	51	4	14	7	30	2	4	11	51	4	7	1
31	2	10	1	52	4	18	11	31	2	6	1	52	4	11	0
32	2	11	4	53	5	3	6	32	2	7	3	53	4	15	2
33	2	12	9	54	5	8	5	33	2	8	6	54	4	19	9
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35	2	15	10	56	5	19	4	35	2	11	4	56	5	9	9
36	2	17	6	57	6	5	5	36	2	12	11	57	5	15	4
37	2	19	3	58	6	11	10	37	2	14	6	58	6	1	3
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The *perfectly new and distinctive plan* introduced by this Company has already attracted much attention: it has been very favourably received by the Public in all quarters, and parties are availing themselves of it, as a plan whereby they secure all the advantages of Life Assurance, with the same facility in operation as if they were paying into a Deposit Bank, without coming under any obligations for payment of Premiums, or incurring any of the risks, penalties, or forfeitures contingent upon all assurance plans *hitherto* adopted, whilst, at the same time, they create, in addition to the effecting of Life Assurance, with its peculiar benefits, a fund unrestrictedly available for their own purposes.

In order to make the Company's plan more thoroughly understood, the following illustrations of it are offered: but before giving these, a few general remarks may be made. The objects of Life Assurance are acknowledged on all hands to be so excellent, that one would naturally expect to see it adopted almost universally by every thinking man in the community; but instead of this, the number of lives assured throughout the kingdom is a very small fraction *even of one class* of the population; and this fact, it will be found, has called forth repeated expressions of surprise on the part of all who have written on the subject of Assurance. But those who have had opportunities of hearing what are the objections most frequently stated when Life Assurance is urged on public attention, are aware that one of the very chief of them is the extreme unwillingness of a party to burden himself for life with the payment of a heavy Annuity, in the shape of a premium, whilst he does not know how soon his circumstances or views may change, and when he knows further, that if he is compelled to discontinue his Assurance, he loses nearly the whole of what he has paid for it. Besides, he is equally unwilling to lock up from his own use, during his lifetime, the fund which he is accumulating, seeing that occasions may arise when he has the most pressing need for a portion of it for himself or his family.

Such an objection as the above is not imaginary; it is an exceedingly natural one, and very likely to occur to all whose incomes are fluctuating in point of time or amount, (and those whose incomes are *not* of a fluctuating nature are the *exception* to the great body of the community); and it is an objection which, undeniably, has had a most powerful effect in restricting the business of Life Assurance.

Any New Company, therefore, though it did no more than remove the above great and general difficulty, would be conferring a boon, in throwing open Life Assurance and all its benefits, without drawbacks or disadvantages, to the public at large; and such is one of the objects of this Company. Its plan and rates are based upon the *first* and *soundest* principles of Life Assurance, and upon the most approved Tables of Mortality; and the facilities and advantages afforded by it for the transaction of Life Assurance are such as have never yet been attempted.

By the *ordinary* plans of Assurance as *hitherto practised*, a policy is issued on a party's life, of consideration of his either making a single payment on a plan which puts it quite beyond the means of most people, or of his binding himself to pay an *equivalent annuity* for the remainder of

THE UNITED DEPOSIT ASSURANCE COMPANY'S ADVERTISEMENT—*Continued.*

is life, in the name of *premium*. Various expedients have been tried, with very little success, o alleviate, if possible, the burden of the annuity or premium; such as *ascending and descending cales, limited payment scales, &c. &c.*; but the burdens, penalties, forfeitures, and restrictions con-ngent on *all* plans of *premium* payments have undergone no change on any of these methods: ne Assurer in all these respects is just where he was.

This Company, renouncing the system of Premiums, which necessarily involves so many rawbacks and penalties, grants Assurances *for any sum that is wished, large or small*, on the De-osit of the equivalent cash value; that Deposit of course, relieving the Assured of all further ayments for the Assurance thereby effected: and it is then for the party himself to go on in-reasing his Deposits, and consequently his Assurance, by paying into his account with this Com-any, as he would into a Deposit Bank, from L.1 upwards, as his means permit, the time and xtent of these payments *being entirely at his own option*. Further, the cash thus deposited is lways of increasing value, and forms at all times a fund on which the Depositor can draw, if he ave occasion, as he would do on a Bank account.

In order that those not fully conversant with Life Assurance may see the true bearing of this Company's plan, the following illustration of it is given. According to the best Tables of Mor-dity in use, a person aged 25 has 38 years to live, that is, he will live to the age of 63, if he be n *average life*.

Take a party at the age of 25, and assume that he deposits with this Company a sum of .10, (he being under no *obligation* to *continue* that payment) for which he receives an equivalent Assurance of L.24, 8s. 4d. If it suit him to continue the same payment annually (which he ay pay at any time or way he likes during the year,) he receives in each successive year the corres-onding amount of Assurance, the total Assurance thus increasing rapidly. Thus, at the age f 35, he has L.247, 12s. 6d. assured; at 45, L.437, 14s. 2d.; and at 51, (*when he is still* 12 *ears short of his average* expectation of life), he has L.537, 19s. 2d., without any obligation up-n him to make any further payment to this Company.

By the Annual Premium System he would, for the same sum of L.10, paid yearly as a Pre-ium, secure L.532, payable on his death, whenever it might happen. At the age of 51, the arty has, as above shown, a somewhat *greater* amount of Assurance on *this Company's plan* than n the Premium system, but with this great difference, that on the Premium plan he has still the .10 to pay for the rest of his life, without receiving any increase of his Assurance, whilst on he plan of this Company, as already noticed, there is no obligation whatever on him for further ayments. At the age of 63, when he reaches the average expectation, he will have with this Company L.707, 8s. 2d. of Assurance, *without obligation to continue his payments;* while by the nnual Premium plan he has, instead of this sum, only L.532, as already stated, with the L.10 nnuity still in operation against him, and to be paid by him for the remainder of his life.

It is always of course to be kept in view that, on the Annual Premium system, the party in he case above referred to, at the age of 25, who comes under an obligation to pay L.10 per nnum, so long as he lives, under the penalty of forfeiting his whole assurance, if he at any time ail in the payment of the Premium as it becomes due, receives immediately a Policy for L.532. But this system forms no part of the plan of the United Deposit Assurance Co. Parties who ind it necessary at once to secure a large amount of Assurance, and who, therefore, must take he risk for the remainder of life of not being able to continue the corresponding heavy Annual Premiums under the penalties and disadvantages already referred to, will adopt the plans *hitherto* ractised.

There are various other very striking advantages in the plan now offered by this Company, ome of which may be shortly noticed. For instance: A party's payments to the Company are t all times perfectly optional, and the intermission or the discontinuance of them altogether auses no forfeiture, loss, or penalty of any kind in regard to his then existing Assurances. He an increase or diminish his payments, or vary the time of making them, exactly as it suits him. f he wish to give up his Assurance, he can at all times receive back the *whole* sums he has paid he Company, with interest; on the Annual Premium system he would receive a return of be-ween one-fourth and one-third of what he has paid, without interest. If he wish the use of the ash he has paid in to this Company, he may have as much of it as he pleases, just as if he were dealing with a Deposit Bank, instead of being restricted to one-third of his payments, as would be the case on the Premium System.

Further examples might be given, but it appears unnecessary. The plan now offered is adapt-d *for all classes*, in all circumstances, and not only for those who have hitherto been deterred ltogether from assuring their lives for the reasons above referred to; but for parties also who ave already effected Policies by the plan of Annual Premiums. Such parties may have no dea of going further with Assurances on *that* plan, from being naturally unwilling to bind them-

THE UNITED DEPOSIT ASSURANCE COMPANY'S ADVERTISEMENT *Continued.*

selves for the payment of larger Annuities or Annual Premiums than they can prudently under take, with all the risks of penalties and forfeitures before them, if those obligatory payment prove at any time beyond their means; but it may be very suitable for them, in addition to the existing Assurances, to open a Policy with this Company, under which they may at any time in their option, pay in such sums as they may be able occasionally to lay aside after paying the premiums, and under which they may also at all times draw out again what sums they please, occasion may require.

Instead of entering here further into details upon the other numerous advantages and facilitie afforded by this new plan, the attention of the public is requested to the Company's Pamphle containing a statement at length of the principles of the Company's constitution, with ampl illustrations of the working of the plan, tables of rates, &c. The Pamphlet and Forms of Pro posal by parties desirous of opening Assurances with the Company may be had at the Office where also any further explanation which may be wished will be afforded.

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Medical Science.

No. LVI.] AUGUST. [No. VIII. OF 1845.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Co-existence of Granular Disease of the Kidneys, with Pulmonary Consumption; and on the Influence of the Strumous Diathesis in predisposing to the Renal Disease. By* THOMAS BEVIL PEACOCK, M.D., *Physician to the Royal General Dispensary, Aldersgate Street.*

DR BRIGHT, in the notes to his Tabular Statement of the morbid appearances in 100 cases of Granular Disease of the Kidneys, occurring in connection with albuminous urine,[1] has remarked, that "the instances in which phthisis, or any form of scrofulous disease, has been connected with the renal affection, have been decidedly rare, so that in only four cases has recent phthisis developed itself; and what is somewhat remarkable, in more than double that number the disease seems to have made a certain inroad upon the upper lobes of the lungs, and then to have become quiescent, or to have entirely subsided, from which we should perhaps be inclined to infer, that, so far from the diseases being associated, the condition of body, in this form of renal disease, is unfavourable to the existence of phthisis, or certainly that it is not peculiarly apt to occur in scrofulous constitutions." These views have not been confirmed by the experience of other observers. Dr Christison[2] says, "I have very little hesitation in putting down the scrofulous diathesis among the predisposing causes of granular disorganization of the kidneys. In repeated instances I have been led by the supervention of œdema

[1] Guy's Hospital Reports, vol. i. 1836, p. 381.
[2] On Granular Degeneration, pp. 112, 113.

during phthisis, to examine the qualities of the urine, and, although the result has not been invariable, still, in a great proportion of cases of the kind, the secretion has been found to possess the properties essential to the renal disease. In repeated instances the diagnosis during life has been confirmed by inspection of the body after death. On diverse occasions, too, the kidneys have been discovered on dissection in an advanced state of granular disorganization, when the condition had not been attended to during life, and when, nevertheless, from the state of the urine in the bladder, there could be no question that the pathognomonic characters of the disease might have been detected, had not the attention been withdrawn from them by some urgent symptoms."

Rayer,[1] in alluding to the remarks of Dr Bright above quoted, expresses the concurrence of his experience and views with those of Dr Christison; and states, that he has in repeated instances found the urine become albuminous during the progress of phthisis, with or without the supervention of dropsical symptoms, and has detected, after death, the characteristic renal disorganization. Martin-Solon—though he found the lungs tuberculous in four out of ten dissections of persons who had sunk under granular disease of the kidneys—regards the two affections as only accidentally coexistent.[2] Dr Osborne, on the other hand, states, that of 36 cases of renal disease with albuminous urine, which had fallen under his notice, four originated in scrofula; and in one of the only two dissections of cases of renal affection producing dropsy, which he relates, the lungs were in an advanced state of tuberculous disease.

These quotations are sufficient to show the difference of sentiment which exists among writers on the Granular Disease of the Kidneys, as to the co-existence of strumous diseases with that affection, and the influence which the scrofulous constitution exerts in its production. The data given in the following paper were collected for my own satisfaction, but, as the question to which they refer is both interesting and important, it is conceived that they may be worthy of publication. The points which I shall endeavour to illustrate, are,—*First*, The frequency of the occurrence of tuberculous affections of the lungs, in conjunction with decided granular disease of the kidneys;—*Secondly*, The relative frequency and importance of the different visceral complications in that affection;—*Thirdly*, The relation as to priority between the granular affection of the kidneys, and the tuberculous disease of the lungs;—and, *Lastly*, The frequency of the granular disorganization as a secondary affection in phthisis, and the influence which it exerts on the progress of the pulmonary disease.

In these inquiries I shall confine myself to the results obtained by dissection,—M. Rayer having shown—as I have myself seen—

[1] Sur les Maladies des Reins, t. ii. p. 313.
[2] De l'Albuminurie, p. 238.

that the urine becomes more or less albuminous, in certain forms of secondary tuberculous deposition in the kidneys, or mucous membrane of the urinary passages; and hence, that in cases of phthisis, the diagnosis of granular disease of the kidneys from the state of the urine, is liable to fallacy. The data for the determination of these questions, I have drawn from the paper on Diseased Kidneys connected with albuminous urine, by Dr Gregory,[1] —the work of M. Rayer,—and from a considerable number of unpublished cases examined and recorded by myself, in the 7th and 8th volumes of the Register of Dissections of the Royal Infirmary of Edinburgh.

I. In Dr Gregory's paper, are detailed the particulars of 41 examinations of persons in whom decided granular disease was detected after death, and in the majority of whom it had also been diagnosed during life. Of these cases the condition of the lungs is reported in thirty-one, of which eight presented advanced tuberculous disease; and in a ninth case, a few tubercles were found at the apex of one lung.

M. Rayer has published the dissections of 45 cases of granular disease, exclusive of those of diseased kidney connected with the dropsy consecutive to scarlet fever, and in all of these the state of the lungs is recorded. Of the 45 cases, 12 presented extensive tuberculous disease in the lungs, and in 5 others there existed fewer recent tubercles in the upper portions.

In the Register of Dissections performed by myself at the Royal Infirmary of Edinburgh, in 1842 and 1843, I find recorded the results of examination in 42 cases of decided granular disease—in the larger proportion of which, the affection had been detected during life. In 40 of these cases the condition of the lungs is expressly given; and of these in 6 they were extensively affected with tuberculous deposition, and in 4 others there existed fewer recent crude tubercles. Placing together these observations, which do not differ more widely than will always be the case in limited series of facts, it results, that of 117 cases of decided granular disease of the kidneys, extensive tuberculous affections of the lungs existed in 26, and a smaller number of tubercles of recent origin in 10 others; or, out of the 117 cases, 36, or nearly one-third (30·7 per cent.), contained more or less extensive advanced tuberculous deposition in the lungs, a proportion much larger than that already quoted, as deduced by Dr Bright from his table: it must, however, be observed, that, as in 11 of the cases included in his table, the condition of the lungs is not reported, his statement refers to only 89 cases.

II. The relation, however, which exists between the renal and pulmonary affections will be rendered more apparent, by a comparison of the relative frequency of the tuberculous affections of the

[1] Edinburgh Medical and Surgical Journal, vol. xxxvi. 1831, p. 315. I have not included in my analysis the small number of cases reported by Dr Christison, as several are also published by Dr Gregory, and in others the condition of the lungs is not reported.

lungs, to the other diseases of those organs, and of the heart and liver, which occur in the bodies of persons who have died of renal disease.

The cases which I have before analyzed will furnish the data for this comparison.

Of the cases related by Dr Gregory, the condition of the heart is reported in 21, of which 7 only presented decided disease.

In the reports of M. Rayer, the condition of the heart is stated in 43 cases, and of these it was flaccid in 21, and 8 others displayed only some slight degree of enlargement with thickening or opacity of the pericardium or endocardium; so that the instances of decided disease amount to only 14, of which 2 displayed recent false membranes on the pericardium, and 12, more or less extensive hypertrophy, with or without thickening and opacity, or actual disease of the valves. Of my own cases, the state of the heart is expressly reported in 38. It was found healthy in 17, and in 5 other cases the only abnormal condition was slight increase of size, with or without thickening and opacity of the valvular folds of the endocardium; of the remaining 16 cases, in 2 there existed recent pericarditis; in 9 hypertrophy and dilatation of one or both of the ventricles, with, in some cases, thickening and opacity, but no incompetency in the valves; and in one of these cases the organ had also undergone the fatty degeneration: In four cases there existed aggravated valvular disease, and in 1 true aneurism of the septum ventriculorum. Thus, of the 102 cases of granular disease, in which the state of the heart was examined and recorded, that organ was decidedly diseased in only 33, or including the cases of recent pericarditis, in 37, or 36·4 per cent.

The condition of the liver is reported by Dr Gregory in 29 cases, of which number it is stated to have been healthy in 12, and more or less extensively diseased in 17. Of the latter class, however, in several instances there seems to have been only trivial alterations of size or colour; and probably, in not more than 8 or 10 cases did there exist organic disease.

In 40 of M. Rayer's cases, the state of the liver is described. In 13 it was healthy; in 7 others it was only more or less engorged, giving rise to slight alterations of size or colour; and in two cases the peritoneal surface was covered by recent lymph, though the texture of the organ was healthy. It thus appears, that not more than 18 cases presented important changes. In 7 of these, there existed marked increase of density in the organ, with or without alteration of size and colour; in 3, there was great enlargement; in 3, cirrhosis; in 3, the organ was fatty; and in 1 it contained tubercle. In one case, the nature of the disease is not stated.

In the cases taken from the Register of Dissections at the Edinburgh Infirmary, the condition of the liver is reported in 30. In 11 it is stated to have been found healthy; in 10 others the only alterations were dependent on the degree of engorgement from ex-

ternal causes, combined in 3 cases with thickening, opacity, or adhesions of the peritoneal coat; and in an 11th case, while the substance of the organ was healthy, the serous covering had been implicated in general peritonitis; so that the viscus was organically diseased in only 8 cases, of which 5 were instances of adipose degeneration, with greater or less enlargement; in 2 the organ contained tubercles, and in one there existed early cirrhosis.

The liver was, therefore, organically diseased in 36 of the 99 cases examined, or in 36·3 per cent.

The lungs were examined and reported in 31 of Dr Gregory's cases, of which 22 displayed different forms of disease, and 8 were decidedly, and one slightly, affected with tuberculous deposition. M. Rayer found both lungs entirely healthy in only 4 cases, out of the 45 which he has reported. In 8 others, however, the only change was more or less decided congestion, dependant on the mode of death or compression from pleuritic effusions, so that the cases of actual disease amount to only 33, and of these the lungs were inflamed and hepatized in 7 cases; the mucous membrane of the bronchi was injected, and the tubes contained much secretion in 9; there existed extensive tuberculous disease in 12, and a few recent tubercles in 5 others.

Lastly, of the 41 of my own cases in which the condition of the lungs is recorded, they were found entirely healthy in 2, and in 10 others presented only compression from pleuritic effusions, or slight degrees of congestion, œdema, or emphysema; and in one the tubes and cells contained blood, from the bursting of an aneurism. There remain, therefore, only 29 cases of decided disease; in 10 of which there existed pneumonic consolidation; in 9, injection of the mucous membrane of the bronchi, and much muco-purulent fluid in the tubes, with considerable congestion or œdema; and in 6, extensive, and in 4 others slighter, tuberculous disease.

Therefore, of 117 cases in which the lungs were examined, 84 presented different forms of disease, or 71·8 per cent., and 36, or 30·7 per cent. more or less extensive tuberculous disease.

It thus appears that

				Per cent.
The heart was examined in	102	cases, and found diseased in	37,	or 36·4
The liver	99		36,	or 36·6
The lungs	117		84,	or 71·8
			Phthisical in 36,	or 30·7

Or otherwise, that the diseases of the heart and liver were of equal frequency, and occurred in about one-third of the cases; while the lungs were affected in different ways in two-thirds of the cases, and were tuberculous in nearly one-half of these, or in scarcely a less proportion than the whole of the several affections of the heart and liver. This very large proportion afforded by the tuberculous diseases of the lungs, in so considerable a number of cases, can, I conceive, scarcely be regarded as accidental, and renders the conclusion

almost necessary, that the causes predisposing to the renal and pulmonary affections are closely allied.

III. It might, indeed, be supposed, that the tuberculous deposition in the lungs is secondary to the renal disorder, being superinduced by the consequent depravation of the constitution, as we find to be frequently the case in chronic visceral diseases. There seems, however, every reason to believe, that tuberculous affections of the lungs are very rarely secondary to the granular disorganization of the kidney. Dr Christison states, that he has not met with a single instance in which this appeared to have happened; and M. Rayer, while he states that such cases occasionally occur, yet admits their extreme rarity. On referring to the notes of nine of my own observations, in which phthisical and granular disease co-existed, and in which the condition of the kidneys and lungs is fully described, I find that in one case the affection of the kidney was unequivocally primary and predominant;—the kidneys were externally of a pale yellow colour and irregular shape, and internally they presented an extensive small granular deposit in the cortical portion, and between the tubuli, entirely replacing the natural striated texture; while the lungs only contained a small number of grey tubercles in the upper lobes. In a second instance, in which the patient was cut off by an attack of acute pericarditis, the kidneys were found in an advanced state of disease; their cortical portions being infiltrated with a whitish coloured deposit, interspersed with small yellowish tubercular bodies, while the disease of the lungs was in an early stage—those organs containing only a moderate deposit of yellow and grey tubercles, chiefly in the upper lobes.

In two other cases, the renal was more advanced than the pulmonary disease; but in these the visceral affections were apparently secondary;—in one case, to caries of the tarsus, for which a partial amputation of the foot had been performed; and in the other, to a venereal taint in the constitution,—the osseous system being throughout extensively diseased.

In a fifth case, there existed advanced granular disorganization, the kidneys presenting a mottled surface, and, on section, being found to contain a copious granular deposit in the striated portion, while the lungs contained old and recent tuberculous disease, in the form of cretaceous masses in the upper lobes and bronchial glands, mixed with yellow and grey tubercle in the crude state; so that the respective dates of the pulmonary and renal affections are doubtful.

In the remaining four cases, the pulmonary disease was evidently primary. The disorganization was in all extensive, and the tubercle had softened, giving rise to caverns in one or both lungs. And lastly, in four other cases, not previously referred to, there existed renal disease in a recent stage, in conjunction with advanced tuberculous disease of the lungs.

It appears, therefore, that of thirteen cases out of fourteen—the

whole of those in which more or less decided tuberculous disease of the lungs, and granular disorganization of the kidneys, co-existed—the priority of the affections was doubtful in one: in two, the disease of both viscera was secondary to other chronic affections; and in one, or perhaps two, the disease of the kidneys was the primary affection; while in eight cases, the lungs were obviously diseased, primarily and predominantly.

That the lungs should in the renal disease be less frequently the seat of secondary tuberculous affections than in most other chronic diseases, may probably be ascribed to the frequency with which those labouring under the affection are cut off by the supervention of acute inflammatory action in the several viscera or serous membranes. It is improbable that the different results obtained by Dr Bright from the cases which he has analysed, and those of other observations, confirmed by the facts I have brought forward, may be ascribed to his having included in his table only such cases as had presented predominant signs of renal disease during life, and in which the tubercular disorganization was consequently only secondary, and not the whole of the cases in which decided granular disease was found on examination after death. The importance, however, which he attaches to the occurrence in some of his cases of tubercles of old date, and in a quiescent state, in the upper lobes of the lungs, as evincing that the existence of granular disease is unfavourable to the progress of phthisis, is, I venture to suggest, founded on a misapprehension of the frequency of the occurrence of these bodies in the lungs of persons who die, from whatever cause, in the middle or after periods of life,—a frequency which the observations of MM. Rogée and Boudet in Paris, and of Dr J. H. Bennett in Edinburgh, show to be greater than would be anticipated by those whose attention has not been specially directed to the subject. The former[1] found cretaceous masses in the lungs in 51 out of 100 persons examined, and in 16 they were numerous, and of considerable size. M. Boudet,[2] in 116 persons between 15 and 76 years of age, met with tubercles in the lungs, altogether free from recent action, in 61; and Dr Bennett[3] in 16 out of 73 examinations. It cannot, therefore, be matter of surprise, that these bodies—regarded by these writers, as well as previously by Drs Home and Carswell, as affording decisive evidence of the curability of phthisis—should have occurred in seven or eight cases of granular disease, out of the 89 reported by Dr Bright. The ages of only four of those in whom they were found are stated in his table; but all these are at periods of life at which the tuberculous bodies, more or less completely transformed into cretaceous matter, are of constant occurrence.

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[1] C. Rogée, Archives Générales de Médecine, 3 serie, t. v, p. 191.
[2] Comptes Rendus, t. xvi. 1843, p. 143.
[3] Ed. Med. and Surg. Journal, 1845, April.

In addition to the evidence that the strumous diathesis powerfully predisposes to the development of the granular disease of the kidneys, founded on the much greater frequency of tuberculous disorganization of the lungs, than of any other single form of visceral affection in the bodies of those who exhibit decided renal disease, whether primary or secondary, still further proof of its influence is afforded, by other affections with which the renal disease is often combined. Thus I find of the cases where the lungs were free from tubercle, one patient laboured under strumous ulcers; a second, under chronic peritonitis, and the peritoneum was studded with small granular tuberculoid masses of lymph; in a third, there existed circumscribed peritoneal and pleuritic abscesses, bounded by fibro-cartilaginous false membranes, and containing sero-purulent fluid mixed with caseous matter; in a fourth case, the sternum and ribs were carious, and had given rise to extensive abscesses, and other instances of the same kind might be quoted. In several of the cases also in which the lungs were pneumonic, the appearance of the consolidated portions was different from that of ordinary hepatization. They were unusually firm, exuded very little fluid on compression, were of a pale buff colour, very distinctly granular when torn, and presented a condition which might be regarded as intermediate between the pneumonic condensation and tuberculous infiltration.

In conclusion, we have seen that pulmonary consumption very frequently co-exists with the granular disorganization of the kidneys, and that, so far from being an accidental complication, supervening during the last stages of that affection, the pulmonary usually precedes the renal disease. We have also found that in cases where the lungs are healthy, there frequently exist other proofs of the tuberculous diathesis, and we can, therefore, scarcely withhold the conclusion, that this constitution very powerfully predisposes to the renal disorganization. The diseases dependant on the scrofulous constitution being most frequent during infancy and adolescence, it follows, that, at these periods, the renal and strumous affections should most generally coexist. This inference is confirmed, so far as relates to the coincidence of phthisis and renal disease, by the analysis of the cases before referred to. Of the 116 persons whose ages are given, 22 are stated to have been of 25 years of age and under, and of these 10, or nearly one-half (45.4 per 100), presented more or less extensive and advanced tuberculous disease of the lungs; while of the remaining 94, 25 only, or rather more than a fourth (26·5 per 100), were similarly affected. To say, however, that the connection between the comparatively few cases of granular disease of the kidneys, occurring during early life, and the strumous diathesis, is so invariable as supposed by Dr Christison, may perhaps be more doubtful.

IV. The 10 cases of more or less advanced granular disease in which the affection was evidently secondary to phthisis, occurred out of 59 cases of that disease in which the condition of the kid-

neys is expressly noted, being thus in the proportion of one sixth, or 116·7 per cent. Of 40 cases of consumption examined and recorded by my predecessor, Professor Reid, of which I possess abstracts, there were 6 in which disease of the kidneys was diagnosed during life, and found to exist after death; and in 4 other cases, in which the condition of the urine does not appear to have been investigated during life, the organs were found decidedly granular;—being thus one-fourth of those examined. In several of the cases examined, both by Dr Reid and myself, the condition of the kidneys was doubtful. Dr Home, in his *Statistical and Pathological Report on Phthisis*,[1] states, that the kidneys had undergone the granular disorganization in 4 cases; but as he has not reported the condition of these organs in his table, we are unable to ascertain the proportion which these bore to the whole of those examined.[2] The granular disease of the kidneys seems to be a more frequent complication of phthisis, than the deposition of tubercle in those organs. Dr Home did not find tubercles in the kidneys in any of the subjects which he examined; of the cases reported by Dr Reid, 3 only appear to have been so affected; and in the observations which I have myself made, tuberculous depositions were found in the kidneys in only 6 or 10·1 per cent. The renal complication would therefore appear to occupy an intermediate position, as to frequency, between the almost constantly occurring secondary affections of the intestinal follicles, and of the mucous membrane of the larynx and trachea, and the depositions of tubercle in the viscera, which, after adolescence at least, are extremely rare.[3]

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[1] Edinburgh Medical and Surgical Journal, vol. xlix. p. 1.

[2] It is curious, notwithstanding the evident frequency with which the renal disease occurs as a secondary affection in pulmonary consumption, that no allusion should be made to the subject by M. Louis, in the last edition (1843) of his *Recherches sur la Phthisie.*

[3] From an analysis of 97 examinations of phthisical subjects performed by myself, I find the relative frequency of the several secondary affections to be as follows:—

The intestinal follicles contained yellow tuberculous matter, or were ulcerated in 85·3 per cent.

The mucous membrane of the larynx, or trachea, was found ulcerated in 70 per cent.

A larger or smaller number of tubercular masses were found imbedded in the substance of the kidneys, or in the mucous membrane of the pelvis and ureters in 10·1 per cent.

Tubercles were imbedded in the substance of the liver in 3·1 per cent.
" " " of the spleen in 1·9 per cent.
" " beneath the attached pericardium in 1·2 per cent.

The substance of the heart is very rarely the seat of any heterologous deposit, and the deposition of tubercle in this situation seems especially rare. In the case here referred to, there was a solitary mass of softish yellow tuberculous matter beneath the pericardium covering the right ventricle. I have seen one other instance in which numerous masses of tubercle, varying in size from that of a pin's head to a split pea, had their seat apparently either in the sub-serous cellular tissue, or on the surface of the pericardium. This was in the case of a female, 28 years of age, whose lungs did not contain tubercle, though the bronchial glands were extensively diseased. This case forms almost the only exception which, out of several hundred examinations, I have found to the general law laid down by M. Louis, that if, after the age of 15, tubercles exist in any organ, they will also be found in the lungs.

In the whole of the cases in which the granular disease of the kidneys occurred as a complication of phthisis, the tubercle had softened, and given rise to caverns—in 3 instances in one lung only, in the remaining 5 in both.

In 4 cases, there existed more or less extensive recent pneumonic condensation in one or both lungs, and in 2 the pleura was also found covered by recent membranous exudations, and its sac contained sero-purulent fluid. In a 5th case there existed copious muco-purulent secretion in the bronchial tubes, and the mucous membrane was much injected. In 7 cases the solitary and aggregate glands in the intestines were tuberculous, and the mucous membrane more or less extensively ulcerated, and in one of these there was also recent peritonitis, though no perforation of the canal was detected.

In one case, there was extensive ramollissement of the central parts of the brain, connected with paralysis, first affecting the right side of the body, and subsequently both sides.

In one case, there was disease of the mitral valve, with hypertrophy, and dilatation of the heart.

In 6 cases, the serous sacs contained more or less fluid, and the cellular membrane was œdematous.

In 2 or 3 cases, the fatal event was ushered in by delirium and coma, and might be regarded as directly resulting from the imperfect performance of the functions of the kidneys.

We see, therefore, that the supervention of the renal disease during the progress of pulmonary consumption, both by the great liability which it induces to inflammation of the parenchymatous viscera and serous sacs, and also by the direct effect of the elements of the arrested renal secretion, tends very materially to add to the severity, and hasten the progress of the pulmonary disease.

The proportion of cases of phthisis in which the renal complication occurs, appears, at first sight, to associate that change with the fatty degeneration of the liver, which, from M. Louis' statement, occurs in France in about one-fourth of the cases, or in 40 out of 120. That the latter affection can only be regarded as accidental, is, however, shown by its very much less frequent occurrence in this country:—thus, in the cases of phthisis examined by Dr Reid, of which I possess notes, the liver is reported to have been fatty in only 5 out of 35 cases, and in my own cases, in only 8 out of 63. Further investigations have also shown, that though, as observed by MM. Louis and Bizot, it is most frequently found in persons who have died of phthisis, and in females, it also occurs in those who have sunk from other chronic diseases, and in both sexes. The renal disease would indeed appear in this country to exert some influence over the fatty degeneration of the liver occurring in phthisis, as of the 8 cases in which that change had taken place, 5 were cases of renal complication, and in one of the remaining 3, the condition of the kidneys is not stated.

ARTICLE II.—*Amputation in Spreading Gangrene. By* EDWARD PARKER, ESQ., *Surgeon to the Industrial School, and late Senior House Surgeon to the Northern Hospital, Liverpool.*

THERE are few questions in surgery, on which so much diversity of opinion has existed, as that regarding the propriety of Amputation in Spreading Gangrene, or which show in a more striking manner the advantages to be derived from an accurate discrimination of the varieties of disease, dependant on the causes which induce them. At an early period in the history of surgery, amputation was regarded as an effectual means of arresting the progress of gangrene; but from circumstances presently to be mentioned, the operation fell into disrepute, and was considered by the highest authorities of the end of the last, and beginning of the present century, to be unjustifiable and injurious. O'Halloran, in 1765, (*Treatise on Gangrene*, p. 81), instructed his readers "never to think of amputating till the mortification became circumscribed;" and "that to do so, rendered the preservation of the patient's life impossible." Percival Pott informs us, that "he never knew the operation to succeed, if performed when the mortification was spreading;" and this opinion is given, not as a vague assertion, but as the result of actual experience. Dr Thomson, the celebrated author of the *Treatise on Inflammation*, thinks "that amputation, so far from preventing the extension of gangrene, accelerates much the progress of the disease;" "and, that until the adhesive inflammation comes on, and a distinctly marked separation of the dead from the living parts takes place, amputation is in few if in any cases of mortification admissible." (*Lectures on Inflammation*, p. 472.) These quotations will be sufficient to explain the nature of the opinions formerly prevalent on this subject; it may suffice to say, that they were almost universally participated in, and that even at the present day, they are received by some as correct and legitimate principles in surgery. The ill success which attended the practice of the writers above cited, appears to have arisen from their not having been aware of the kind of cases to which amputation is specially applicable. To Baron Larrey is due the credit of pointing out these, and of impressing on surgeons their practical importance.

A few isolated instances of the successful performance of amputation in spreading gangrene are to be met with in authors previous to the appearance of Larrey's *Chirurgie Militaire*, in 1812; but they are rather the results of successful empiricism than the happy application of a sound principle. The fortunate issue of those cases certainly entitled the operators to the credit of demonstrating the fallacy of the extreme opinions which were entertained on this subject; but the still greater merit of discriminating the particular class of cases to which amputation is applicable, and of lay-

ing down the rule, that we should not in these instances wait for the formation of a line of demarcation, is clearly due to the French surgeon. The distinctive character of traumatic gangrene is now so well understood, and the importance of the rule of practice referred to so generally admitted, that it may almost be deemed a work of supererogation to adduce further proof of its expediency or success. So great, however, is the influence of early impressions, and so strong the attachment to ancient authorities, that even at the present day men are found, who doubt the one and deny the other. The experience of the last thirty years has not with them decided this question, or confirmed the favourable reports at first promulgated. It becomes, therefore, an object of some importance, to give publicity to such additional evidence, as may, when sufficiently accumulated, remove all remaining doubts. With this view, I submit to the profession the two following cases. In many respects they may be usefully contrasted. In one, (Wright's), the amount of injury affords a satisfactory explanation of the subsequent gangrene, and might even have suggested the propriety of immediate amputation. The youth of the patient, the possibility of the collateral circulation being sufficient to maintain the vitality of the limb, and the superior restorative powers possessed by the upper extremities, led to the attempt to preserve the arm—an attempt which, when youth is on our side, is justifiable under the most desperate circumstances. In the other case, (Retta's), there was nothing in the injury which can afford the smallest explanation of the occurrence of mortification. The wounds themselves were of too trifling a nature to produce directly so serious a result; and the supervention of gangrene might justly have given rise to a suspicion of some constitutional predisposition. The age and previous health of the patient, the absence of all evidence of heart or arterial disease, induced a belief that it owed its origin to a purely local cause, and that this was the supervention of acute cellular inflammation, inefficiently treated, and probably aggravated by improper applications. The result of the case, and the favourable change which took place almost immediately after the operation, prove the correctness of this opinion. In addition to the above, I have witnessed, within the last four years, three other cases, in which amputation was performed during the progress of acute gangrene, arising from local causes. In all, the operation was attended with perfect success. Of these, one has been published in the *Medical Gazette;* the second is of so interesting a nature, and was performed under such desperate—almost hopeless circumstances—that I trust the gentleman in whose practice it occurred, may be induced to publish an account of it. Of the third, I regret that no details have been preserved.

Case 1. Mary Wright, aged 19—admitted, 17th May 1842, under Mr Bainbrigge—works in a cotton factory, and has always enjoyed

good health. This morning, her arm was caught by some part of the machinery; she was immediately brought to the Hospital, and found to have sustained the following injury: There is a lacerated wound across the upper part of the left fore-arm, in front of, and just below the bend of the elbow, from three to four inches long, an inch and a half wide, and involving the fleshy bellies of the flexor muscles, which are severely torn and bruised; the tendon of the biceps can be felt on introducing the finger into the wound, also the pulsations of the brachial artery; the radius and ulna are both fractured, but the elbow-joint does not appear to have been opened; no pulse can be detected at the wrist in either the radial or ulnar artery, and the hand and fore-arm are somewhat colder than on the opposite side; the sensibility of the parts below the wound is but slightly impaired, and she retains the power of flexing the fingers. She states that she has lost a good deal of blood; since her admission the hemorrhage has ceased; water dressing was applied to the wound, the arm laid upon a pillow, and surrounded with flannel wrung out of hot water.

18*th*. Has passed a tolerable night, and does not complain of pain; there is a good deal of symptomatic fever; the hand and fore-arm are much warmer; no pulse at the wrist; complains that the end of the fore-finger feels numb; arm rather hot, not much swollen; pulse 120, feeble; bowels have been freely opened.—*Contin. remedia.*

19*th*. Slept for several hours; has little or no pain; face much flushed; skin hot; pulse 140; kidneys act well; the sensibility of the three middle fingers is lost, that of the thumb and little finger remains, the integuments over the thumb are even painful on being touched; has still the power of moving the fingers, but in a less degree than yesterday; the under surface of the fore-arm is somewhat swollen, of a dark colour, and feels emphysematous; along the back of the hand and wrist are a number of red streaks; on removing the lint, the wound presents a sloughy appearance, its edges and some of the lacerated muscular tissue are in a gangrenous state; the discharge is small in quantity, thin, and fetid; surrounding the wound, are several large vesications; the water dressing and fomentations were ordered to be continued, and the following mixture prescribed: *R. Liq. am. acet.* ℥iss, *Tr. camph. comp.* ℥ij., *Vin. antim.* ℥ij, *Mist. Camph. ad* ℥viij. *M.—Cap.* ℥i. 4tâ *q. horâ.*

20*th*. Has passed a comfortable night; the febrile symptoms are somewhat abated; pulse 130; tongue cleaner and moister; no delirium; the sensibility of the whole of the hand, except the dorsum, is lost; the fingers are of a purplish colour at the tips, cold, pallid, and apparently devoid of vitality; the under surface of the fore-arm is one large slough, extending from the wrist to the wound, which discharges a thin, brownish, and very offensive matter; there is not much swelling of the fore-arm, and scarcely any above the elbow. —*Contin. remedia.*

21*st*. Slept for several hours during the night, and feels pretty well; does not suffer much pain in the arm; has slight uneasiness at the pit of the stomach; no nausea or vomiting; tongue moist; pulse 116, rather feeble.

The gangrene has extended considerably, and now involves the whole hand and anterior surface of the fore-arm, the posterior surface still retaining its vitality; the wound is gangrenous, and emits an offensive odour; above the elbow there is very little swelling, and the integuments are free from inflammation. In consultation, it was decided to remove the limb. The operation was performed about four inches above the elbow, and the parts cut through were in a healthy condition. On examining the amputated limb, the following were the appearances presented: All the flexor muscles, except the flexor carpi ulnaris were divided about two inches below their common origin from the internal condyle; the radial artery was completely torn across, about an inch and a half below its orifice, the two ends being filled with coagula; the ulnar artery was divided at the point where it gives off the interosseal; its extremity was filled with a coagulum, the lower division of the ulnar also contained a coagulum, which extended nearly to the wrist; the ulnar nerve was uninjured, the median, opposite the seat of injury, seemed to have been bruised, and was somewhat thickened from infiltration of blood into its substance. The ulna was fractured about three inches and a half below the olecranon, and the radius about two inches from its upper extremity; the latter fracture was partial, extending two-thirds only through the shaft of the bone. The elbow-joint had not been opened, and was free from inflammation. Three hours after the operation the stump was dressed, by bringing together its edges with isinglass plaster, applying a few turns of a bandage, and covering the whole with linen rag, wet with cold water, which was ordered to be frequently renewed.—*Pulv. Dover. gr. x; Hyd. c. cret. gr. iv. M. et Sumat.*

30*th*. The stump has not united by the first intention; it discharges some purulent matter, and looks healthy; has gone on remarkably well until to-day. She complains now of pain in the calf of the left leg, which is swollen, hot and painful on pressure, but free from redness.—*Spirit lotion to be constantly applied; was ordered to take a small quantity of wine.*

June 3. The wound is looking well, discharges less, and is partially united; leg better, though still swollen and painful; has some febrile disturbance, hot dry skin, loss of appetite, and thirst; pulse 100, and feeble; tongue slightly furred and moist; bowels open.—*A draught containing half a grain of quinine, and fifteen drops of chloric æther to be taken three times a-day.*

5*th*. The wound doing well; the leg also is better, and the general symptoms are improved.

From this date, she continued to progress favourably, and on the 6th July she was made an out-patient, the stump being very nearly healed.

Case 2. Frederick Retta, aged 44, a rigger of temperate habits, admitted March 30, 1845, under Mr Bainbrigge, with gangrene of the right arm. On Friday, the 21st instant, he received an injury to the right hand from a hawser, and suffered so much pain, that when brought to the hospital, he refused to allow it to be examined. He returned on the following morning; there was a lacerated wound of the thumb, exposing the flexor tendon, also a wound in the palm of the hand; water dressing was applied. He did not again return, but went to a bone-setter in the neighbourhood, who dressed the wound with plaster and a bandage. He was treated in this way every day, though severe inflammation set in, for which he was ordered leeches to the back of the hand, and the constant application of a lotion composed of sugar of lead dissolved in water. He thinks the mortification first appeared in the fingers on Tuesday or Wednesday; and continuing to extend, a surgeon was called in on Sunday, who recommended his immediate removal to the hospital. On admission the hand was dark coloured, cold, and devoid of feeling. The anterior surface of the fore-arm presented a large gangrenous patch, which extended half way to the elbow. There was considerable swelling of the limb, and the integuments were highly inflamed for four or five inches above the elbow. His general appearance indicated great anxiety and suffering. There was much irritative fever; tongue loaded and dry, thirst, bowels open, no delirium. The limb was placed in a large yeast poultice, and ten grains of Dover's powder prescribed to be taken immediately.

March 31. Has slept but little; expresses himself as feeling much easier; countenance anxious and depressed; pulse 120, feeble, rather small; urine drawn off with the catheter; the gangrene has extended nearly to the elbow; the inflammation and swelling of the arm reach to the axilla. Amputation of the limb was proposed, and being consented to by the patient, was performed about four inches below the shoulder-joint. The parts cut through were much infiltrated with serum, and the cellular tissue presented a very unhealthy appearance. He bore the operation well, and lost little blood. The flaps were brought loosely together, by strips of adhesive plaster, and lint moistened with spirit lotion was directed to be constantly applied; in the evening an opiate was given.

April 1. Feels comfortable; countenance improved; has not slept much; pulse 100; complains of severe pain in the abdomen, for which a turpentine injection was ordered.

5*th*. Is going on well; countenance and manner cheerful; pulse 88, of good strength; appetite bad, tongue loaded, bowels regular, sleeps pretty well; as to the stump, the skin looks well, muscles and cellular tissue sloughing.—*To have beef tea, and half a glass of ale.*

From this period he continued to improve daily; the cellular tissue threw off several sloughs; healthy granulations sprung up, and the edges of the flaps were approximated by strips of adhesive plaster.

On the 30th of April he was made an out-patient, the stump being then nearly well, and his general health in a great measure restored.

Article III.—*Survivance for Forty Days after the Separation of forty-four inches of Intestine. By* William Hill, Esq., *Portobello.*

The subject of the following history was a lady aged 65, who had long been in delicate health, and a sufferer from constipation, as well as from many of the distressing symptoms of dyspepsia. She paid a month's visit to a friend in Edinburgh; during which time she neglected to use laxative medicines. On the 26th of August 1844, she returned home, apparently in her usual state of health, though she had not had any alvine evacuation for eight days. Immediately after this, she was attacked with violent pains in the bowels, for which she took two doses of castor oil, and applied hot fomentations, without any benefit. On the afternoon of the same day, I found her suffering from pain in the abdomen, which at intervals was intense. I ordered enemata; and a sinapism to the abdomen. At my evening visit, I did not find her in any degree relieved. She was rejecting every kind of food; and complaining of great tenderness of the abdomen on pressure, along with tympanitis; the pulse was 120, small, and sharp. Notwithstanding of her delicate and exsanguine appearance, I bled her to 18 ounces: this made a considerable impression upon her pulse. During the operation, she complained of faintness; but when the arm was bound up, stated that she was relieved by the bleeding. Calomel and opium were prescribed in the form of pill; and the bowels were distended by an injection, to the fullest extent which could be borne; but the fluid returned, without having acquired, in the very slightest degree, a feculent odour, or aspect.

August 27. The vomiting is less frequent, and the intensity of the pain is diminished, but there is still great tenderness on pressure. The calomel and opium pill was continued: 18 leeches were applied to the abdomen, and when the bleeding had ceased, a blister was put on the same place.

August 28. The blister has not risen; and she suffers from frequent hiccup. A poultice was applied to the abdomen.

August 29. The blister has risen since the poultice was applied. Vomiting has now ceased: the pulse is 110; the pain and tenderness of the abdomen are diminished. The calomel and opium pill is to be continued; but the quantity of opium in it is lessened. A soap enema was administered.

August 30. A feculent odour and colour were noticed in the soap injection, on its return from the bowel. There is tenderness of the gums, and a very slight degree of mercurial fetor. Six

drachms of castor oil were given; and the calomel and opium discontinued.

August 31. She has had several copious, and exceedingly offensive motions. The pain and tenderness are nearly gone: the tympanitic distention is much diminished: the hiccup, though less frequent, still continues. She was ordered to have chicken soup, with a table-spoonful of wine, every two or three hours.

September 1. There have been abundant dejections of dark-green offensive feces.

September 2. The pain and hiccup have ceased; but the diarrhœa continues. To have five grains of Dover's powder immediately, and five grains more every fourth hour.

September 3 *and* 4. The diarrhœa continued in spite of the opiate enemata, &c., which were resorted to.

September 5. I was hurriedly sent for by the nurse, who had become much alarmed by feeling something extraordinary protruding from the rectum. In consideration of the diarrhœa, I at first supposed that this might be a protrusion of the rectum itself. On examination, however, I found a shrivelled substance, about four inches long, hanging down, and attached to something soft within the sphincter. Gentle and continued traction brought away a portion of the entire intestine, which, with what had been protruded, measured forty-four inches: it was so decayed as to taint the whole apartment with its putrid odour. The separated portion of intestine was washed in chloride of lime, and is now preserved in alcohol.

October 14. For about ten days after the last report, the tendency to diarrhœa continued, but was kept in check by opiate enemata. The mouth, for a short time, was severely affected with the calomel. For nearly a month, the bowels were moved naturally once or twice a-day. She took a little food with considerable relish, and complained only of great general debility and exhaustion, till to-day—forty days from the separation of the portion of intestine—when she died, leaving a frame, the most attenuated which I ever saw endowed with life. Until moribund, she retained full possession of her mental faculties.

Autopsy, four days after death.—I was assisted in the examination of the body by my friend Dr Vallange, who had seen the patient during life. We traced the intestines from the stomach downwards, and found them healthy onwards to the colon, which, from the left iliac region, upwards to the lower rib, had formed strong adhesions to all the neighbouring parts: it was dark and fragile at its lower part. A large cavity was formed, on a line with, and above the *os ilium*, by adhesions: it was full of feculent matter: the upper part of the rectum, and the lower portion of the colon, opened into this cavity. The sigmoid flexure was wholly wanting; and the colon, from the caput cœcum, to its termination in the cavity, as above described, measured only 14 inches.

Remarks.—In this highly interesting case, involution of the bowels must have taken place, leading to amputation and throwing off of the sigmoid flexure. The adhesions formed a strongly walled cavity, which prevented the escape of feculent matter into the general cavity of the abdomen. The ingesta had traversed the intestines in the natural way; and first filling completely the cavity described, had then forced their way down through the rectum. This is obviously the explanation of the motions being latterly so regular, and so apparently natural.

PORTOBELLO, 2d June 1845.

ARTICLE IV.—*On a Portable Electro-Magnetic Machine.* *By* THOMAS WRIGHT, Esq.

THE Principles upon which this Machine is constructed may be embodied in two Propositions.

Proposition First.—A current of voltaic electricity passing through a wire, or other conductor, will excite magnetism in a bar of iron placed at right angles to said conductor; and this magnetism will cease, with the cessation of the voltaic current.

1. The bar will receive magnetism in proportion to the degree in which it is opposed to the influence of a given voltaic current; —therefore, by coiling the conducting wire round the bar, and at right angles to it, the influence of the current passing along the whole length of the former, is brought to bear on the latter, and the highest degree of magnetism is obtained. [*The conducting wire must be covered with cotton, silk, or worsted, so as to insulate from each other the different parts of the coil.*]
2. The purer the iron, the more readily will it receive and lose magnetism. [*Fine iron wires become greatly divested of impurities during the complicated processes to which they are subjected in manufacture; and for this, as well as some other reasons, are to be chosen for Electro-Magnetic Machines.*]

Proposition Second.—As the voltaic current—or, electrical disturbance of forces—in the coiled wire of an electro-magnet induces magnetism in the included iron, so does the disturbance of forces produced in the iron, both on the *excitation* and *cessation* of magnetism in it, re-induce an electric current in the coiled wire.

It is to the current produced by such *cessation*, that the following remarks apply.

[*In a bar of unmagnetised iron, the forces are at rest, and naturally balancing each other; in the same iron when magnetised, they are equally at rest, but in a forced and unnatural state; it is during the transition from the natural to the forced, and again from the forced to the natural states, that the re-induced electric currents are set in*

motion; in fact, as, by the bend and recoil of a spring, we can convert a mechanical force of great power, but slow impulse, into one of small power but quick impulse,—so can we, by the aid of the before-mentioned disturbance and recoil of forces in the iron, convert the electric force obtained from the voltaic pile, which is great in quantity but of low tension, into a current high in tension, but proportionally deficient in quantity.]

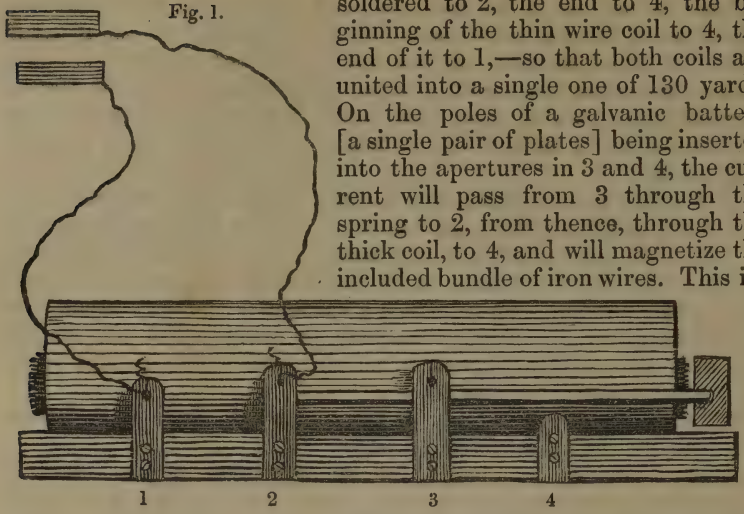
1. A single pair of plates will not give either shock or spark, but if the current of low tension, set in motion by them, be passed through the coil wire, it will induce magnetism in the included iron, which magnetism, on its cessation by interruption of the voltaic current, will re-induce a current in the wire capable of passing through the human body, or through the air—in the first case, causing spasm or shock, and in the second, emission of light, or the spark.
2. The *quantity* of electricity set in motion in the coil is dependent on the thickness of its wire.
3. The *tension* of the current, or its capability to pass through media of inferior conducting power, on the length of such wire, without reference to its thickness.
4. *Intensity* of current implies a combination of quantity with tension, and is obtained by combination of the requisites for its components.

The electro-magnetic coil, which I generally use, consists of a bundle of iron *binding* wire, No. 90,[1] eight inches long, by one-half inch diameter. Over it, is coiled an insulated conduct-wire of copper, No. 16, and thirty yards long; this small length of wire will give a considerable shock, especially when the epidermis is moistened; but, to obtain a current of still higher tension (8), 100 yards of fine insulated copper wire, No. 80, are coiled over the last. The two coils being perfectly distinct and unconnected with each other, and with the iron, a very severe shock is obtained from the fine wire coil. As a shock cannot be obtained from the instrument unless the voltaic current be interrupted, the addition of an instrument, by which a rapid succession of such interruptions may be effected, is required. The contrivance described below is automatic, and was published by me some years ago in the fifth volume of *Sturgeon's Annals of Electricity*. The annexed figure (fig. 1,) shows it adapted to an electro-magnetic coil. The coil A rests on, and is partly imbedded in, its foot-board, to which last four brass pillars, 1, 2, 3, 4, are very firmly screwed; to 2 is soldered a brass spring, which, after passing on the inner side of 3, and gently pressing[2] against it, is continued to the end of the coil, and terminates in a piece of iron. The beginning of the thick wire coil is

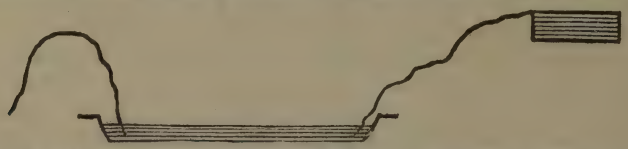
[1] The number by which it is distinguished at the wire drawers.

[2] The points at which the spring presses on 3 should be covered with platinum, as the spark oxidises brass very rapidly.

Fig. 1.



soldered to 2, the end to 4, the beginning of the thin wire coil to 4, the end of it to 1,—so that both coils are united into a single one of 130 yards. On the poles of a galvanic battery [a single pair of plates] being inserted into the apertures in 3 and 4, the current will pass from 3 through the spring to 2, from thence, through the thick coil, to 4, and will magnetize the included bundle of iron wires. This instantly attracts the piece of iron at the end of the spring, and, separating the latter from 3, interrupts the voltaic current. The magnetism of the bundle now ceases, and the spring falls back to its place to be again immediately attracted. Shocks are obtained from the thick iron coil by the application of the conductors to 2 and 4,—from the thin wire, to 4 and 1,—and from the united length of both coils, to 1 and 2. The conductors are pieces of brass half-inch tube, which, for convenience of packing, are made to slide one over the other. The wire connecting them with the machine should be long, *and not thicker than the thin coil:* they are merely inserted into the slits in the pillars. When it is required to decrease the shock, one of the conducting wires must be broken, and its divided ends dipped into the opposite sides of a dish of



water, which last becomes the channel of the passing current, and retards it by its inferior conducting power. It will at once be understood that the nearer the wires are to each other, and the greater the quantity of their surface exposed to the water, the greater will be the shock. When the current from the thick wire coil is thus to be retarded, salt must be added to the water.

The current from the thick coil is one of high intensity, and is most effective in producing muscular contraction; that from the thin coil produces shock or concussion: they preserve their characters when retarded as above.

This electro-magnetic machine may be contained, together with its conductors, wires, and a small battery capable of working it, in a japanned tin box, nine inches long, five broad, and three high; and may be thus conveniently carried under the arm.

38 RANKEILLOR STREET, EDINBURGH.

ARTICLE V.—*Cases of Hernia: with Remarks. By* JAMES SPENCE, ESQ., *Lecturer on Operative Surgery.*

As there are few surgical diseases in which every practitioner is so frequently called upon to act for himself, as in Hernia, and, therefore, few in which he is so immediately interested, I offer the following cases, as illustrating some of the difficulties which occur from time to time, in the treatment of this disease.

CASE 1. P. B., aged 40, the subject of the present case, had been affected with hernia for a great many years. At an early period of the complaint he had worn a truss, but for some time back had discontinued its use. Since then, the swelling had rapidly increased in bulk, but he had always been able to reduce it himself, when it became troublesome.

On the 25th of August 1840, he was attacked with vomiting and twisting pains in the belly, which, as he had been living rather freely for a few days previously, he attributed to an "attack of bile," and did not apply for medical assistance until the morning of the 27th, when the hernial swelling became painful, and on trying to reduce it as usual, he found he could not do so. He then sent for Mr Lawrie, who tried to reduce it by taxis, but without success. I saw him for the first time, at 9 P.M. of the 27th August, along with Mr Lawrie, when his state, as recorded in my notes, was as follows:—

There is a large scrotal hernia on the right side, which is tense, and painful to the touch; but the contents of which can be returned into the abdomen, with the exception of a hard rounded mass, which feels exactly like an enlarged testicle, and which cannot be reduced. The cord can be felt behind the hernia, and the testicle, of natural size, in its usual position, at the lower part of the scrotum. He has frequent vomiting and hiccup; the belly is tense, tympanitic, and tender to the touch, and he complains of severe twisting pains from the hernia towards the navel. Except a scanty stool when the vomiting first began, he has had no motion in his bowels since the commencement of the attack, although enemata and laxative medicines have been given. The expression of his countenance is anxious; skin rather warm, and covered with perspiration; pulse 108. He says that he never felt the "hard lump" in the rupture on any previous occasion.

At half-past 11 A.M., I saw him, along with Drs J. A. Robertson,

J. Reid, and Duncan. The symptoms had become more urgent, and there was constant hiccup. Cold having been applied to the tumour, and the taxis again fairly tried, but unsuccessfully, I proceeded to operate. An incision about three inches long was made over the swelling, commencing at the situation of the deep ring, and continued downwards; the different coverings were then divided, and the sac exposed and opened, in the usual manner, to a sufficient extent to enable me to pass my finger upwards to the ring. Having divided some sharp resisting fibres at that point, I next proceeded to reduce the contents of the sac; but after reducing some convolutions of the gut, I found that the intestine seemed to be firmly fixed below; and on opening the hernial sac, a little farther down, I exposed a rounded fleshy-looking mass, evidently adherent to the scrotum by its outer surface. Its appearance was singular, resembling somewhat a portion of the large intestine twisted round the lower part of the loop of the small intestine, which had been partially reduced, and some of those present thought it was an intussusception of the bowel contained in the hernial sac. As, however, it was evident that its circumference strangulated the other portion of bowel, it was resolved to notch its edges slightly with the bistoury, at different parts, so as to try and relieve the bowel embraced by it. So tight was the constriction, that I could not introduce the probe-pointed bistoury between its edge and the intestine, and was obliged at first to divide from without inwards. When the stricture was thus relieved, the true nature of the case was at once seen, viz. that the fleshy-looking substance surrounding and strangulating the intestine, was a small subdivision of the lower part of the sac, greatly thickened, altered in structure and appearance, separated from the upper portion of the sac by a firm, narrow neck, and closely adherent to the scrotum below. The bowels were then reduced, a compress and bandage applied over the wound, and a large opiate draught directed to be given immediately.

I saw him again at 3 P.M., and found that he had had no return of the vomiting or hiccup; the bowels had not yet acted, but the enema had just been given before I called. His pulse had fallen to 96, and he expressed himself as much relieved.

At 8 P.M., his pulse had fallen to 86, and was soft; he had had one evacuation after the enema; he said he felt much better, complained of no pain on pressing the abdomen, except in the immediate neighbourhood of the wound. I directed him to take half an ounce of castor oil, to obtain a free motion from the bowels, and to have another opiate at night. I offered to send a person to watch him, but his friends stated that they had procured one of his own relations, a sick nurse, for that purpose, whom he would prefer to a stranger. I left strict orders to keep him perfectly quiet, and to let me know at once should any unfavourable symptoms appear.

I heard nothing further till next morning, when, on my way to visit him, I met a person coming for me, who said he had not been

quite so well during the night; and on entering his room, to my surprise I found him moribund, and no one in the room with him. From his landlady I then learnt that no sick nurse had ever been in attendance, and that his brother and some acquaintances had sat up with him; that they had given him, at his own request, a quantity of porridge and beer, shortly after which the vomiting had recommenced, with pain in the belly; and these symptoms had been allowed to go on without ever sending for me or Mr Lawrie.

Every effort was made to procure a *post-mortem* examination of the body, but without success.

The points principally worthy of remark in the case are, 1st, The unusual position of the seat of the stricture, viz., in the body of the sac, and towards the lower part of the scrotum, and the peculiar appearance of the lower part of the sac, as seen during the operation; 2d, Some symptoms and features of the case, which, taken in conjunction with the patient's previous history, may serve as guides in the diagnosis of similar cases, and may also lead us to modify our operative procedure in such cases.

With regard to the position of the constriction, it may be said, that, though rare, it has been noticed by several writers on hernia. Scarpa gives a plate of a hernia, with constriction of the sac in the scrotum, and points out the double swelling, as marking the nature of the case. Lawrence mentions the case of a young man on whom he operated, in whom there was a very tight stricture midway between the testis and external ring, and where he had great difficulty in distinguishing the true nature of the lower swelling, the upper part of the sac having been opened first. Pott, Wrisberg, and Pelletau, all mention having met with similar cases; but these differ from that which I have just detailed, inasmuch as they were all cases of congenital hernia, and the constriction in the middle of the sac was caused by the contraction marking the natural division of the tunica vaginalis from the general peritoneal sac. I consider this an important difference in a practical point of view, because in these cases, although the sac would be constricted in an unusual position, and therefore render the nature of the case sufficiently puzzling, still the lower part would be of the same appearance as the upper portion, they would both present the usual appearance of serous membrane, and thus the continuity of the upper and lower portions would be more readily recognised. Whereas, in the case I have described, the causes which had given rise to the constriction in the sac had also effected alteration of structure in that part of it below the stricture, and thus gave rise to greater embarrassment in the operation. What these causes were, and how they had acted in producing these effects, are, I think, obvious from the history of the case. The man, when first affected with a small inguinal hernia, had worn a truss, and continued its use for many years. The effect which this would have by its continued pressure in causing constriction of the neck of the small sac, where it lay op-

posite the external ring, and also in condensing and altering the structure of its whole surface generally, will, I think, be readily admitted. After a time, the use of the truss was discontinued, and the result was, that a larger hernial protrusion took place, not entering into the original sac, owing to the narrowness of its opening at the contracted neck, but carrying along with it a fresh portion of peritoneum, and pushing the small sac down before it into the scrotum. So long as matters remained in this state, the patient could always reduce it himself; but on this one unfortunate occasion, a part of the bowel passed through the contracted part into the lower division of the sac, (or into what was the sac of the original small hernia). This was the state of parts, when the operation was performed. The upper part of the sac was opened, and part of the intestines returned, when a small tumour was brought into view closely connected with the scrotum; and now came the embarrassment, for there was no appearance of continuity between this and the superior part of the sac, owing to the tightness of the contraction; it was also totally different in appearance, and to the touch. Here, I think, it will be allowed that this was much more embarrassing than the cases of congenital hernia, where the lower part, or tunica vaginalis, unaltered in structure, would be more easily recognised, and where, from the relative position of the testicle, further assistance in diagnosis might be gained. Indeed, I confess, that the only thing which decided my action in this case, was the practical consideration, that whatever the thick fleshy substance surrounding the intestine might be, it was evidently strangulating, and therefore equally evident, that its constricting edges must be divided to relieve the strangulation.

We now consider those points in the case, which may assist us in our diagnosis, and regulate our operative measures in similar cases. The diagnostic marks of most value, were those derived from examination of the swelling, and the feeling of it when trying to reduce it by taxis; for, although it presented at first sight the usual uniform appearance of a large scrotal hernia, yet a small "hard lump" could be felt at its lower part, distinct from the rest, and on attempting reduction, all the contents of the sac could be returned, except this "lump," which the patient, who had hitherto been in the habit of reducing the swelling himself, at once stated, he had never felt there before. Attention to these points, connecting them with the history of the case already mentioned under the former head, when speaking of the position and peculiarities of the structure on the sac, would I think lead the surgeon to discover the true character of the case, before proceeding to operate; and then the question arises, how should such knowledge modify our plan of operation? Should we cut down upon the small swelling at the lower part of the scrotum, divide the constricted part of the sac, and reduce the bowel, without interfering with the upper division of the sac at all? I do not think this would be a very judicious plan; for, in the first place, the lower

part of the scrotum is not the most favourable place for incisions; and, further, we may have obstacles to the reduction of the hernia situated higher up, and if we require to divide them also, then our incision would extend through nearly the whole length of the scrotum, up to the inguinal ring, a thing always to be avoided. I should, for my own part, if I altered my mode at all, in a similar case, reduce as much as possible of the hernia, before proceeding to the operation, and this would bring the irreducible portion, or smaller division of the sac, up towards the inguinal region and upper part of the scrotum, and then the incisions might be made in the usual manner; only we must recollect that the contents of the larger or superior division of the sac having been reduced, the smaller or lower portion would necessarily become invaginated within it, so that more than one layer of serous membrane would be divided before the strangulated intestine would be exposed.

Case 2. On the 19th May 1843, I was requested by Mr Menzies to visit L——, aged 33, who was labouring under symptoms of strangulated hernia. I found the patient suffering from incessant vomiting, his countenance anxious, pulse 115, and small. There was a small but very tense oblique inguinal hernia on the right side, unyielding on pressure, and painful. The whole abdomen, also, was tender and tympanitic. He said that though for some time subject to the rupture coming down, the urgent symptoms only appeared that morning. On carefully examining the scrotum, the right testicle could be felt much atrophied, and about the size of a small flattened bean, from which the cord, also much atrophied, could be traced upwards. The left testicle, although somewhat larger, was also atrophied. On first seeing the patient, I was much struck by his boyish appearance, and thought that I must have misunderstood Mr Menzies regarding his age. He stated, that some time ago he suffered from a pain and difficulty in making water, which came on gradually, and without any assignable cause, that then the testicle first swelled to a very large size, and was very painful, and subsequently began to diminish, and so gradually wasted away. As the swelling in the scrotum diminished, the protrusion of the bowel began to appear occasionally, when in the erect position, but was always readily reduced by the hand, and as he supposed it was in some way connected with the disease of the testicle, he did not like to mention it to any one. The difficulty of making water had been very great just before the present attack; he stated also, that he had for some years been troubled with what he calls an asthmatic cough. I now attempted to reduce the hernia by taxis, but ineffectually. I then explained to him, that an operation would be required, but he wished to delay for an hour or two, till he saw some friends whom he expected.

I saw him again in the course of two hours, before which time Mr Menzies had bled him freely, and tried the taxis again in the

warm bath, but without effect. As the symptoms were even more urgent than before, he now saw the necessity of submitting to an operation. This was done by the usual incision along the tumour, the skin, superficial and intercolumnar fasciæ, being divided, there appeared a large, rounded mass of fat, enveloped in a cyst of dense cellular tissue. On dissecting through this, the hernial sac was seen and opened. It contained a portion of small intestine, very much distended; I then felt a constriction about the middle of the inguinal canal, which I divided; but on passing my finger upward, I found that there existed a very tight, firm stricture higher up, apparently in the neck of the sac. On this being divided, there escaped a large quantity of dark-coloured serum. The bowel was then reduced, the edges of the wound united by sutures, and the pad and bandage applied; and I directed him to take a large opiate draught.

Next morning I found that he had passed a good night, having had no return of the vomiting. His pulse was 90, but soft; tongue moist. He complained, however, that since the operation his cough had troubled him very much. As his bowels had not been freely opened, he was ordered an enema immediately, and to have a sinapism over the chest, and to continue the opiates combined with ipecacuan.

On the third day, I found that his bowels had been very freely opened, and he was free from any bad abdominal symptoms except pain at the wound, from constant coughing. But the cough had become much worse, and expectoration was difficult. The mucous râle was heard over both sides of the chest. The pulse was 90, but soft and compressible. Mr Menzies had been obliged to stop the use of opiates, owing to their having affected the pulse, and rendering it irregular. He was ordered to apply a large blister over the anterior and upper part of the chest, and to take an expectorant mixture for the cough.

On the fourth day, the chest symptoms were somewhat alleviated. The wound was looking well. He had no tenderness at any part of the abdomen.

He continued better for some days whilst the blister remained open; but as it healed, the bronchitic symptoms again became troublesome, but yielded gradually to the use of successive blisters and stimulating expectorants. The union of the incision was, of course, interfered with by the constant cough disturbing the parts; but from the third day after the operation he did not suffer from a single abdominal symptom, and the cure was completed in about four weeks.

Case 3. M——, aged 65, affected with oblique inguinal hernia from an early period of life, but for which he had never worn a truss, felt, whilst exerting himself, a sudden increase of the protrusion, and on trying to reduce it as usual, found he could not do so.

He was seen in the course of the day by Dr Burn, who, on examination, found a large and tense scrotal hernia, which he could not succeed in reducing by the taxis. I visited him, at Dr Burn's request, about 10 P.M., and found him suffering from the usual symptoms of strangulated hernia. On examination, I found a very large and tense scrotal hernia on the left side, which was so very painful to the touch, that he could scarcely allow it to be pressed without excruciating suffering. This state probably arose from his own constant but unavailing efforts to reduce it. All the usual preliminaries having been already used, I merely applied cold over the swelling till Dr Burn arrived. I then attempted reduction by the taxis, as the cold had allayed the tenderness of the swelling. As this, however, did not prove successful, I proceeded to the operation, which presented nothing particular, except that, owing to the patient being very fat, the depth of parts was greater than usual, and that the hernia, being very large, and composed of the sigmoid flexure of the colon, required a very free division of the parts surrounding its neck before it could be returned.

As regards the immediate effects of the operation as evinced by abdominal symptoms, these were very slight. Some tenderness occurred, for which he was bled promptly by the gentleman left in charge, and opiate draughts administered. The bowels were slow in acting at first, as is not unfrequently the case where the large intestine is the part protruded; but except these, there was not a single bad abdominal symptom. This patient, however, had very nearly sunk under symptoms of bronchitis supervening on the second day after the operation. He had been for some years affected with "cough and asthma," but was quite well at the time of the operation, during the performance of which he was not exposed to cold, for it was done in bed, in a small bed-closet, and was by no means tedious. Yet, as I have said, the bronchitic symptoms appeared almost immediately after the relief of the abdominal symptoms. Rapid effusion into the bronchial tubes on both sides of the chest took place, attended with general febrile symptoms, irregular pulse, and great thirst. At first blisters and antimonial expectorants were used with relief; and subsequently, when the pulse became weak and irregular, stimulant expectorants and opiates were substituted, and also wine and beef-tea given to support his strength. Under these remedies he made a gradual but slow recovery. The wound at first healed well, but afterwards was affected by the weakened state of his health, and also apparently by the application of the blisters to the chest, for whenever these were applied, and had fairly risen, then the wound began to look pale and flabby, and union of part of it previously formed gave way, the healing process again becoming active as the blistered surface on the chest healed.

My object in noticing the two foregoing cases is to direct atten-

tion to a complication sufficiently troublesome in itself, as a concomitant of hernia, and which I cannot help thinking is more directly connected with the operation than we might at first suppose. I believe it to be the immediate result of the constitutional irritation consequent on the operation, in patients predisposed to bronchitis, which, in such patients, instead of affecting the peritoneum or intestinal canal, and thus giving rise to symptoms of abdominal irritation or inflammation, produces in them these bronchitic symptoms in an aggravated form; and thus, whilst little or no abdominal uneasiness is manifested throughout, the surgeon has to contend with a series of symptoms equally dangerous, and perhaps even less controllable, than those which more usually follow the operation.

The former of these two cases is also interesting, from the circumstances preceding the protrusion. The obscure affection of the genito-urinary organs, the swelling of the cord and testicle, first distending the inguinal canal and the abdominal rings, and then the complete atrophy of these organs diminishing resistance, and thus readily permitting protrusion, are all evidently connected with the appearance of the hernia in this man.

Case 4. Mrs M——, aged about 40, was attacked on the 13th of November last, with violent pain in the bowels and incessant vomiting, which she considered as colic, but finding that the medicine she took had no effect in either relieving the pain or in procuring motion of the bowels, she sent for my friend, Mr Beath of Castle Street, who found her labouring under all the symptoms of hernia. She said she had no swelling in the groin, but on Mr Beath examining, he at once detected a considerable femoral hernia on the left side, which he tried to reduce by the taxis, but without success. The nature of her case was explained to her, and she was told that if it could not be reduced by other means, an operation would be necessary. On visiting early next morning, Mr Beath found that the vomiting had entirely ceased as well as the severe pain in the bowels, and that the patient felt easier, but the hernia felt as tense and was as considerable as ever, whilst the constipation still continued notwithstanding the use of enemata and other measures to procure evacuations; her pulse was 76 and soft; skin of moderate heat,—it was under these circumstances that I first visited the patient along with Mr Beath at 12 o'clock of the 14th.

Her state at this time was as follows:—"countenance flushed and anxious, skin hot but covered with perspiration, tongue moist, pulse 94 and rather wiry, and there is considerable thirst. The constipated state of the bowels continues, but she has had no return of the vomiting. The hernial swelling is tense and painful to the touch, but she does not complain much of pain over the abdomen, which is tympanitic and distended. I again tried the reduction by taxis, the hernia lay rather more obliquely upwards and out-

wards over Poupart's ligament than usual, and particular attention was had to bring it into a line with the axis of the femoral ring before attempting to return it; but the tense unyielding feel of the swelling evidently showed that its reduction could only be effected by operation. The cessation of the violent symptoms at first felt had made the patient suppose she was somewhat better, so she said she wished it delayed for a little.

At 3 P.M. I saw her along with Sir G. Ballingall and Mr Beath. The symptoms continued much the same as at the former visit, except that the pulse was quicker and smaller. On the danger of her situation being now shown her, she consented to the operation. I therefore proceeded to perform it. The integuments having been divided by a single incision made in an oblique direction over the swelling, the sac was exposed after dissecting through the fat and glands covering it. On opening the sac, which was large, a considerable quantity of dark serum escaped, and exposed a small tense knuckle of intestine of a dark colour, very tightly constricted,—so tight indeed was the stricture that I could scarcely insinuate the nail of my forefinger between it and the intestine, so as to guide the probe-pointed bistoury. Having notched it slightly, I then passed the point of my finger a little further up, and divided the stricture fully. The bowel was then carefully examined, and although very dark and indented at the constricted part, seemed sufficiently healthy to be reduced, which was accordingly done, the wound dressed, and bandage applied in the usual manner. She was then put to bed, and a large opiate administered.

In the evening her pulse had risen, and there was slight tenderness in the abdomen, with heat of skin and thirst. For these symptoms she was promptly and freely bled by Mr B., and a pill of calomel and opium given. Next morning she had a small dose of castor oil, after which her bowels were freely opened, and after this she never had a bad symptom, and the wound healed kindly.

This case affords a good example of comparatively slight constitutional disturbance, and of remission, or rather gradual subsidence of the more prominent and violent symptoms, occurring where there is, nevertheless, a tightly constricted hernia, and shows the risk and danger of temporising in such cases, merely because the symptoms do not seem very urgent. A few hours, in all probability, would have given a very different result to the case just narrated, for I have seldom felt a tighter stricture than in this case, and the bowel was of a very dark colour even at the time of the operation. I think that in all such cases, the urgent symptoms with which the attack commenced, taken in conjunction with the obstinate constipation, and the tense and irreducible state of the hernial swelling, form a sufficient warrant to proceed to early operation, particularly where the hernia, as in the case of Mrs M——, is of recent date. I say particularly in recent herniæ, because no doubt there are cases of old irreducible hernia where our course is

not quite so clear. Cases in which from irritation or inflammation of the contained intestine or omentum, or of the hernial sac itself, very urgent symptoms, closely resembling those of strangulated hernia may arise, so very urgent, that after using other remedies without effect, the surgeon may feel himself called on to propose an operation for their relief, and yet in which these symptoms may disappear without an operation having been submitted to. As an example of this class take the following.

Case 5. *Old irreducible Hernia, with Symptoms of Strangulation. (Recovery without operation.)*—I was requested by Mr Lawrie to visit with him a female servant, in a gentleman's family, who was apparently suffering under symptoms of strangulated hernia.

I found the patient (aged about 50,) with cold clammy skin, small quick pulse, constant vomiting, and occasional hiccough. On examining the hernia, which was a large femoral one, I found it very tense and painful to the touch; the tumour felt quite fixed in its position, and the parts felt thick and matted; the whole abdomen is also distended, tympanitic, and tender. The patient states, that she has been affected with the rupture for a great many years, and that it never could be reduced, although its reduction had been frequently attempted; she also mentioned, that on a former occasion, when she had a similar attack, an operation was proposed, but that she declined submitting to it, and got better without it having been performed. On being questioned as to the commencement of the present attack, she admitted having taken some food which usually disagrees with her, having drunk a quantity of ale; she had also been exposed to sudden cold, after being engaged in cooking. "She says, the pain is of a twisting nature, stretching up from the hernia towards the stomach, and that exacerbations of pain precede the vomiting, which latter symptom is now almost incessant." Previously to my seeing her, she had been bled, enemata had been administered, calomel and opium had been given, and hot fomentations applied to the abdomen, without the slightest relief; her tongue was furred, and red at the edges. Under these circumstances, she was again bled from the arm, and leeches applied over the abdomen, near the hernia, and a large opiate draught administered, and a pill containing gr.iss. of opium, 2 grs. of calomel, directed to be given every third hour. I again saw her, in the course of three hours, and as her symptoms still continued unrelieved, or rather had increased in intensity, for there was now occasional hiccough, I explained to her master, that although, from the rupture never having been reduced at any time, there might be some doubt, still I considered her symptoms so very urgent as to warrant an operation. But as she had escaped the operation on a former occasion, she was determined not to submit to it, she said, but to take her chance again. She was, therefore, again bled, a large sinapism applied over the epigastrium, a large opiate enema

administered, and the calomel and opium pills ordered to be continued. We then left her, desiring to be sent for if she should alter her resolution regarding the operation. On calling next morning, I found her greatly better; the pain had begun to subside very shortly after the opiate enema was given; her bowels, however, had not yet been opened. I ordered a dose of castor oil, which operated in a short time, and in the course of a few days she had quite recovered.

Now, the result of this and similar cases may appear to some an argument in favour of delay. At the most, it is only applicable to cases of old standing, where the hernia has been long irreducible, in which, therefore, the impossibility of reducing it by the taxis, is of no service to us in forming our diagnosis as to whether it is strangulated or not. But if, as I presume few will deny, the contents of such herniæ be liable to strangulation, then surely, even in such cases, if along with increased tension of the tumour we find all the urgent symptoms of strangulation, I still think that, in spite of occasional exceptions, such as the case I have detailed, the surgeon will act wisely for the safety of his patient who, after using active preliminary treatment, proposes and urges the operation being performed.

To suppose that this was a case of strangulated hernia, relieved by the treatment adopted, is an idea so preposterous, that, to any one acquainted with the state of parts in such cases, it may seem ridiculous even to mention it; yet we see "Cases of Strangulated Hernia,' cured by Opiates, without Operation"!! occasionally reported in medical periodicals,—cases where, as in that just detailed, the symptoms are the result of gastro-intestinal irritation, apparently commencing in intestine contained in the hernial sac.

Case 6. *Strangulation following direct injury of the Swelling.*—An old man, who for a great length of time had been the subject of scrotal hernia, and had never worn a truss, happened to receive a severe blow (supposed to be a kick) on the swelling. He was at some distance from home when he received the injury, and though faint and sick in the first instance, he managed to walk home. He then lay down complaining of sickness, but without telling what was really the matter. Vomiting, however, began soon afterwards, and then a medical man was sent for, who, on examination, found the parts over the hernia bruised and swollen; the hernial tumour, though not very tense, could not be reduced; and he had no motion in his bowels after he received the injury. Enemata were administered, and purgatives given by the mouth, and leeches were applied over the lower part of the belly, and various fomentations to the swelling, but without affording relief.

I saw the patient at 2 A.M. of the second day from the receipt of the injury. He was then labouring under all the symptoms of strangulated hernia. The tumour was tense and irreducible,

whilst the patient stated he used to be able to put it back formerly. The abdomen was distended, and painful on pressure. There was obstinate constipation, and constant vomiting; his pulse was about 108, and compressible; the skin covered with perspiration, and there was great thirst, whilst the expression of his countenance indicated great suffering. Although from the general symptoms, taken in connection with the history of the case, there could be but little doubt that there was general peritonitis, resulting from the direct injury of the hernial sac and its contents, combined with strangulation of the latter, still it appeared to me that the operation afforded the only reasonable hope of relief. I accordingly proposed this to the patient, but he peremptorily refused to submit either to that or any other farther remedies being used; so obstinate was he, indeed, that he would not even allow the use of the warm bath, or any farther attempt to reduce the hernia by the taxis; a medical gentleman, in whose service he had formerly been, tried in vain to persuade him to submit. The vomiting increased in frequency, became stercoraceous, and, after great suffering, he expired on the third evening after the injury.

Leave was obtained from the family to examine the body.

The peritoneum was found extremely vascular, and there was great effusion of sero-purulent fluid, with flakes of coagulable lymph contained in its cavity. The vascularity was most marked, extending from the sac, and a portion of the great omentum contained in it, upwards to the parietal peritoneum, and that investing the stomach. The parts about the neck of the sac were found engorged with blood, and much swollen. The sac, generally, was of enormous thickness, (nearly three lines) and coated internally with recently effused lymph. On its external surface, in the scrotal region, there was a thin coating of extravasated blood. The parts contained in the sac, were a portion of the great omentum, behind which lay a convolution of the small intestine, much swollen, and of a dark colour; both the gut and the omentum were matted together by soft adhesions of recent lymph; the intestinal canal above the incarcerated portion was distended with liquid feces, whilst the large intestine was contracted and empty.

This case is valuable, as showing that even in cases of old herniæ, where the symptoms have, in the first instance, depended upon irritation or inflammation of the sac or its contents, strangulation of the protruded parts may be the result, and the operation may be required to afford the patient a chance of relief. For we must bear in mind, that although at the first there may be no constriction of the hernia, yet, after a time, owing to vascular engorgement, or the inflammatory swelling, such a relative disproportion may arise between the protruded parts, and the aperture through which they passed, that they cannot be returned, and then the swelling gradually increasing, strangulation of the gut is the result, which must terminate fatally, if not relieved by operation.

That such was the cause of death in the case just detailed, is, I think, obvious, both from its history and symptoms, and was confirmed, beyond a doubt, by the *post-mortem* appearances. It is true that, viewed in any light, such cases are very unfavourable, on account of the degree of peritonitis already present. Yet we must remember, that the strangulated hernia is certainly fatal, except relieved by operation, and that therefore, without this be done, we afford our patient no chance of escape. Whereas, as regards the inflammation already present, we cannot much increase that by the operation. Nay, will we not rather, by removing such a prominent source of irritation, be better able to combat the inflammatory action.

ARTICLE VI.—*The Human Female Ovary, with reference to Corpora Lutea, both True and False. By* FRANK RENAUD, M.D. Edin., M.R.C.S. Eng., *Physician to the Ardwick and Ancoats Dispensary, late Senior President of the Royal Medical Society of Edinburgh, &c.*

IN this paper it is proposed to submit the result of four years' research, pursued independently of the writings of others, and developing facts, simply as they appeared; in order that any novelties may, by repetition, be refuted or confirmed, and that the writings of those already in print may be strengthened by corroborative testimony.

The ovary is definable as the "germ-preparing gland—its functions consisting in secreting, developing, and maturing the ovum or follicle."

Glands, when ultimately considered, are blind canals, or cul-de-sacs, within the cavities of which the proper secretions are eliminated. The secretion of the ovary is a germinal vesicle, or compound cell, which is formed within its stroma, as in a nidus, and which, when cast off, is endowed with properties enabling it to assume ultimately all the complicated mechanism of the parent animal. Some discrepancy seems to exist between the mammalian ovary and other secretory glands, in that the former has no excretory duct directly attached to it. This duct or tube of Fallopius is always contiguous, and is periodically continuous with it, the same nerves supplying both ovary, oviduct, and uterus, —viz. the hypogastric plexus, which is made up of bundles, partly sensory, and partly motory, the sensory and motory fibrillæ subdividing in the ganglia, and receiving different distributions.

Four cæcal tubes, terminating in a common vestibule, constitute at once gland and duct in the *bombyx rubi*, of the class Insecta. In the *leech*, the ovary is enclosed in the common sheath of the oviduct. Thus it appears, that in some orders of animated beings,

not only is the ovary and its duct continuous, but the reproduction of the species is completed without any uterine appendage. In the *ornithoryncus paradoxus*, the ovaries are completely embraced by the oviducts. This fact may be expressed by saying, the fimbriæ of the oviduct are so modified, that they form one common calyx, which, at all times, and under all circumstances, grasps the ovary, and constitutes, along with the tube, an outlet for the secretions of the gland. The *ornithoryncus* has no distinct uterus, but merely a rudimentary one, formed by a slight hypertrophy of each oviduct on their common junction.

In many quadruped mammalia, the oviducts, at their fimbriated extremities, exhibit no line of demarcation between their commencement and their termination in the uterus proper. Each cornu commences at a common body, and tapers away gradually, until it terminates abruptly in a fringed margin, or morsus diaboli. In the human female, the line of demarcation is too palpable to be misunderstood. Thus it appears, that the human female uterus may be viewed as the crown and epitome of all antecedent types; whilst the uterus being the only part wanting in the reproductive economy of some animals, it seems preferable to consider it, as found in the various classes of the animal kingdom, rather as an enlarged portion of the oviduct, than to understand the oviducts as uterine appendages.

As respects the yellow bodies found in the human female ovaries, the old terms, "true" and "false" corpora lutea, are adhered to, in order that unnecessary confusion may be avoided, through the introduction of a new phraseology.[1]

Each menstrual period may be considered an abortive attempt on the part of nature to reproduce the species. In like manner, the sequelæ, or catamenial secretion, may be viewed as the perversion of an action destined for other ends, and failing in the accomplishment of them. Such an action under the stimulus of impregnation would be so far altered, as to minister towards the production of a deciduary membrane.

The periodicity of the ovaries in the different classes and orders of the vertebrate mammalians varies considerably; but is always persistent in the same animal, when its functions, general and specific, suffer no declination from the standard of health.

The excitement originated in the ovaries is naturally followed by vascular congestion, during the continuance of which the Graafian follicles progress rapidly towards maturity, and protrude from the free walls of the ovary. Thus, rupture of the tunics of the ovary, with escape of the ovum, often ensues in a manner quite independently of the menstrua, as flowing previously, although probably

[1] Dr Ritchie has recently called false corpora lutea "Corpora menstrualia," which designation is objectionable, even according to Dr Ritchie's own showing, as he observes, "the presence of the catamenia is no indispensable pre-requisite to the rupture of a Graafian vesicle."

putting a sudden period to their flow, by a cessation of the cause originally exciting them.

A study of the comparative anatomy and physiology of this subject shows, that the lower the class of animals, the greater the facility with which ova effect an escape into the ducts; whilst the reverse rule obtains in the human subject. Hence it is, that anatomists and physiologists appear to err so much, in conducting experiments upon lower animals, and thence educing hypotheses by which to account for identical phenomena in organized beings, wherein the structures no less than the functions are dissimilar.

There does not appear to exist any near sympathy between laws regulating the uterine and ovarian functions in ruminating animals and man,—the sequences common to lower mammalians in respect to the generative system being only partial in their influence over the human female.

The theory that would indicate each menstrual period to be coexistent with the secretion of a small yellow body in the ovaries, requires facts much more imperative than any as yet advanced. To assert that a recent yellow body, with or without an internal coagulum of blood or fibrine, is never seen except menstrual œstrum or conception can be traced, is not proof adequate to establish as a physiological law, that menstruation never happens without its presence. If dates taken during the life-time of an individual, and pathological examinations made subsequent to death, be of any value, then all who have made special search for the appearances in question, must have remarked how small the number of them frequently is, and how very irregular they are in appearance—the presence of spurious corpora lutea being discernible longer than two months, at the lowest calculation. Rather, therefore, than be forced into the opinion, that the menstrual periods in women are of much less regularity than is generally supposed, it seems preferable to receive with caution a theory that requires so much show of ingenuity for its establishment, and which, by this very fact, demonstrates a weakness in some of its connecting parts.

Very few ovaria found after death in women of the child-bearing period, fail to develope within their substance appearances referrible to vascular excitation; *e. g.* yellow bodies, with or without coagula, abortive of true conceptive corpora lutea; or yellow bodies, more diminutive in size, lined internally by a very thin black membrane; or jet black bodies, triangular or oval in shape, placed near to, and close up to the surface, with or without corresponding cicatrices; or more solid black bodies, resembling shot corns, occasionally found nearer the centre of the ovary, and without any connection with its periphery.

As respects the first of these appearances, viz. the yellow bodies, with or without coagula, there is evidence enough collected to prove, that towards each menstrual epoch a perceptible and rapid develop-

ment of the Graafian follicles occurs; and to this may be added, that they sometimes burst—the rupture or the retrocession being guided by the duration and intensity of the action within the secretory gland.

False corpora lutea differ from true corpora lutea: or, in other words, these bodies differ from each other, accordingly as they precede or follow impregnation, in the following particulars:—1*st*, In size; 2*d*, In colour; 3*d*, In the relative thickness of their parietes; 4*th*, In the rapidity with which they arrive at perfection; 5*th*, In the smaller amount of time they occupy in disappearing; 6*th*, In structural peculiarities.

1. *Of size.*—After the lucid descriptions given of false corpora lutea by Dr Montgomery, M. Raciborski, Dr Lee, Dr Paterson, Dr Ritchie, and others, any further delineation of these general appearances seems unnecessary; and the more especially so, since, after all, it appears the evidence thus furnished is unsatisfactory in its result, as well as liable to error and misinterpretation. The size of spurious corpora lutea is perhaps the most uncertain of the criteria named; nevertheless, the average dimensions of these bodies are less than those of true ones at a very early period of formation. At a later date, the comparative difference is most clear, as they rapidly decrease to one-third, or to more than one-third of their pristine magnitude, prior even to losing their proper yellow colour. In true corpora lutea, the specific secretion goes on progressively increasing, until, occasionally, one-half or more of the ovary is occupied with it.

2. *Of colour.*—False corpora lutea appear always of a sulphur or chrome-yellow colour on first being secreted, depending upon the presence of an oil of a bright yellow tint. As degeneration advances, the brightness of the yellow matter fades into a paler hue. The colour of true corpora lutea is more variable, ranging from yellow-ochre to reddish-brown.

3. *Of relative thickness of parietes.*—This is no mean evidence of a difference existing between the true and false bodies. In false corpora lutea, the parietes are characteristically thin; in the true ones, they are always of relative thickness, but always more so than the spurious ones—the absolute density being in accordance with the internal arrangement of parts. The average thickness of a spurious corpus luteum of recent date is from one-third to one-half of a line.

4. *The rapidity with which they arrive at perfection.*—It is an important fact to notice, that, whereas a spurious corpus luteum comes to maturity in two or three days, the true corpus luteum goes on progressively increasing for some weeks. This assertion is based on the fact, that the walls of a false corpus luteum are thickest immediately after the cessation of the menstrua; whereas true corpora lutea, examined a month after the fœtal development has commenced, are found increasing.

5. *The more rapid degeneration* undergone by the spurious bodies, is another circumstance, affecting any parallel, that may be attempted to be drawn between them and the true bodies. In ovaria where the greatest regularity of action may be inferred to persist, the false structures of prior monthly periods are always smaller, less thick, and more pale, according to their respective ages. It is probable that a spurious corpus luteum can be detected as late as the fourth month, but not long afterwards. In corpora lutea coexistent with pregnancy, it is well known that no such rapid declension happens, and that evidences of their presence may be seen many weeks after parturition.

6. *With reference to structural peculiarities*—it will be only needful now to state, that spurious bodies have never been known to partake of that fleshy character so well understood as belonging specially to the true conceptive bodies. The microscopical anatomy of each will be found elsewhere.

In addition to the foregoing diagnostic differences, Dr Montgomery has given one, which is no less clear in fact than universal in application, viz.:—that, whereas injections pass freely into the substance of the true corpora lutea, they invariably fail to penetrate the false ones. Having now detailed what appear to be the most striking differences between these two secretions, they must stand as apologies for the name "false corpus luteum" being retained, although in contra-distinction to the statements of some recent writers who desire a total abolition of the term. Dr Bischoff, in a letter to M. Breschet, states, that both Dr Montgomery and Dr Paterson are in error, in maintaining as they do, that there are two sets of these bodies, the true and the false, and that such views are based upon mistaken notions of the manner of their formation. M. Raciborski, in the *Comptes Rendus de l'Académie*, &c., for 1843, asserts that the anatomical characters of a lacerated Graafian follicle, at the menstrual periods, resemble altogether those that have been described by physiologists under the name of "corpora lutea after fecundation." Latterly, Dr Knox, in a paper published in the *Medical Gazette* for 1843, has adopted similar opinions, and argues on the impropriety of tolerating the term. When the yellow secretion of the spurious corpus luteum is placed under the microscope, immediately after the cessation of the catamenia, it is seen to be made up of cells, enclosing 1, 2, 3, or more nuclei, which are of a bright and clear colour, surrounded by granules or molecular particles. The cell walls are so very tender and delicate, that on the slightest pressure, the nuclei escape on all sides, and meeting with each other, quickly coalesce, a large and shapeless mass of oil resulting. The moment these nuclei come in contact with each other, so soon do they amalgamate, an act which goes far to prove them to be fatty matter. Boiled in ether, the nuclei disappear, and the oil granules become shrivelled and empty. In shape, the cells are irregularly rounded, oblong, or oval. In most of them, the nuclei can be detect-

ed, whilst in others they either do not exist, or are obscured by the aggregation of the granules surrounding them.[1] This demonstration puts a period to speculations as to the yellow matter being altered blood, or intumescence of the vascular membrane of the Graafian follicle. Furthermore, as the body is distinctly formed of cells, it follows, that it is a substance *sui generis*—a consequence of some action or actions excited in the ovary in order to its production. To investigate the mode of production of these cells, it appears most consonant with the physiology of generation to consider the changes wrought in the ovum, prior to the advent of those actions which first cause the corpus luteum to be developed. The yolk globule is originally produced from granular matters secreted by the vascular ovisac. In some instances, as in the umbilical vesicle of the embryo lizard, the most accustomed eye can detect little or no difference between it and the cells of false yellow bodies. If a fully developed ovum be placed in the field of a good microscope, the granular matter is found to be mixed up with cells, perhaps more regular in form, and much smaller, yet not essentially differing from either of the foregoing. If, then, these appearances be traceable in the unruptured follicle, it seems to follow, that, as the entire follicle is comparable to a compound cell, the fluids within it must directly or indirectly emanate from actions taking place on the inner surface of the cell wall, *i. e.* the vascular membrane of the Graafian follicle. Hence, it appears a legitimate conclusion, that the yellow matter of the false corpus luteum has its origin here also. This mode of stating the case has been observed by reason of contradictory statements having recently been published regarding the exact locality of this yellow matter—Bischoff espousing Baer's doctrine as to the secretion being found on the inner surface of the *inner* membrane of the follicle, whilst Dr Montgomery and others have asserted it to be found on the inner surface of the *external* membrane, and between the two. The following case is cited at full, to show that the yellow matter may be found lying free in the cavity of the spurious body,—an instance of departure from a general rule, rather than an illustration of the rule itself.

Fig. 1.

Isabella Smith, aged 36, took a poisonous dose of opium on the 25th May 1844. She partially recovered, but relapsed, and died on the 28th, at which time the catamenia were upon her. The os uteri is dilated and elongated laterally—the walls are hypertrophi-

[1] Much similarity of form and constituent principles will be observable between these cells, and the exudation corpuscle, characteristic of inflammation:—for some good illustrations of which, *vide* "Inflammation of Nervous Centres," by Dr John Hughes Bennett, in the *Edinburgh Med. and Surg. Journ.* for 1843.

ed—a sanguineous secretion covers the mucous membrane of the uterine cavity. The right oviduct is occluded at its free extremity, and is dropsical, the pavilion being distended with nearly an ounce of straw-coloured fluid. The corresponding ovary contains a Graafian vesicle at its superior and uterine extremity, small in size, and but slightly vascular. There is also a degenerating false corpus luteum. The left oviduct is contracted in length, and twice curved on itself, the consequence of adhesive bands stretching between it and the uterus. The free extremity is tightly bound down to the broad ligaments, and with the exception of two pointing and fleshy-looking points, the fimbriæ are obliterated. The whole interior of the duct is filled and distended with coagulated blood, of a deep carmine colour, approaching to modena. The corresponding ovary is so covered with false membranes, that it requires dissecting out. Its outer portion is distended with a dropsical vesicle as large as a walnut. The portion nearest the uterus contains a spurious corpus luteum, bearing on the *inner* surface of the *internal ovisac* the characteristic yellow secretion, which, when submitted to the microscope, presents the appearance of these bodies in a perfectly recent state. The inner membrane presents traces of vascularity. There is no yellow matter between the two membranes. The substance is semi-fluid, and can be rubbed partially away with the finger. No cicatrix was observed, the ovary being much involved in false membranes.[1]

A certain criterion whereby the dates of corpora lutea, both true and false, may be determined with moderate accuracy, is a desideratum in medico-legal investigations that has long been felt. The very lax manner in which the descriptions of these bodies have been detailed, and the difficulties encountered by the most cautious in making their meanings understood, as well as the incertitude surrounding the bodies themselves—all combine to call for some additional definition, whereby doubt may be replaced by certainty, and the "ipse dixit" of third parties, who may be non-professional, corroborated, or else received "cum grano salis."

Without seeking to exalt any aid the microscope may yield in this dilemma, it certainly appears, that, by its use, certain fixed appearances are made manifest, both as to the nature of the corpora lutea themselves, as also to the same appearances in their development, persistence, and decay. The cell structure of an early corpus luteum of the false type is already figured. By having several times compared these bodies of the same date with each other, they can be referred to with some degree of confidence. One case will merely be cited from out the number, in order that others

[1] This case serves to prove, that one oviduct may be obliterated, and yet the uterine functions remain entire. Also, that to the development of a spurious body, the grasping of the ovary by the fimbriæ of the oviduct is not imperative. Furthermore, that the ovary may be partially diseased, and yet maintain a certain superficial power to perform its periodical functions.

may form an opinion as to the bodies in question, and the circumstances under which they were found.

A young woman, aged 25, who had not conceived, commenced menstruating on Monday the 31st of July 1843. The catamenia flowed regularly during the day. On Tuesday August 1, they ceased suddenly, without any apparent reason. Early on Wednesday, August 1, acute peritoneal inflammation set in, which terminated fatally within twenty-four hours.

Her death took place precisely on the third day. On post-mortem section, perforation, the consequence of chronic ulceration of the stomach, was found to have been the cause of the fatal seizure.

The right ovary measures one inch four lines in length. The average breadth is seven lines. The surface is partially corrugated. A slight prominence exists at the anterior and lower edge. On division, the ovary is found deep red and almost livid in colour. Corresponding with the external prominence is a body, in colour chrome-yellow, having the parietes, which are convoluted, and which enclose within their walls the specific yellow secretion. Within the external cavity lies a well-defined clot, lying free at all points, except at that corresponding to the external cicatrix. Microscopically viewed, the yellow substance is just what is seen represented at Fig. 1. The micrometer on which the cells lie is one thousand to an inch. In the same ovary are five Graafian vesicles, four of the size of peas, and one much larger. The left ovary measures one inch four lines long, and is six and a-half lines across. A longitudinal section displays three of the false corpora lutea in different stages of retrogression.

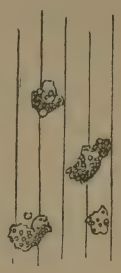
The next illustration is of a spurious yellow body, dating one month. It was taken from a young woman who died of pneumonia. The uterus and ovaries gave evidence of approaching menstruation. The mucous membrane of the uterus was reddened. The oviduct corresponding to the enlarged Graafian vesicle contained bloody mucus, and was congested. The spurious body of last month was contracted to one-half the dimensions usually observed in these bodies at the third or fourth day of their appearance. The internal ovisac was studded over with pigmentary molecules. The cells will be seen smaller in size. The nuclei are yet very distinct, but smaller than in Fig. 1; as are also the molecular granules. They lie on the same micrometer.

Fig. 2.

The next figure is the microscopical anatomy of a false body, fast becoming extinct. The size altogether is not more than two lines long, by half a line broad. It preserves the yellow colour in a modified degree. The date is probably three months, or even more,

calculated from circumstances connected with the woman's history. At this period it seems next to impossible to date with perfect accuracy. Every thing connected with this wood-cut bespeaks a state of decline. The cells are more shrivelled—the nuclei and granules are less. The appearance becomes the more striking by comparison with Fig. 1.

Fig. 3.



Independently of these yellow bodies, there are dark spots in the ovaries, which in most cases partake of a true inky blackness. This dense colour entitles it to rank as a variety of spurious melanosis, distinct from the true melanosis, inasmuch as it has neither a tendency to cause irritation, ulceration, or disorganization of surrounding tissues. The ovaries being glandular bodies, and far removed from the centre of circulation, yet periodically, under the influence of physiological excitement, are liable to have in their proper sacs or follicles, an increase of vascularity, which is essentially capillary. Dr Carsewell, in his article "Melanosis," written for the *Cyclopædia of Practical Medicine*, says;—"black discoloration of the blood has been long known to follow as a consequence of retarded or interrupted circulation. This change is never so conspicuous as when it takes place in the extreme venous circulation, or in the capillaries. Under some circumstances, as in chronic inflammation, &c., the blood accumulates in the capillaries, and finally ceases to circulate. After a certain length of time, it coagulates, and the serum is forced out along with the salts which are absorbed. That which remains is an almost black substance, of the consistence of firm fibrine, which is probably hematosine." The black matter in the ovaries so much resembles the same, in other parts of the body, when not malignant, that it seems difficult to separate the appearances of the one from the other; whilst, if viewed conjointly or separately under the microscope, the size of the cells, the aggregation of the granular contents, the small nuclei, &c., render any diagnostic difference difficult, if not impossible, of detection. The black pigmentary matter within the ovaries is a cellular growth. If it be viewed some length of time subsequent to secretion, it may appear difficult of detection, —the exact appearances of the individual cells having undergone so much alteration, as to give them something of the appearance of a structureless mass, following the ramifications of blood-vessels. When recent, the case is markedly different, as appears from consulting the following wood-cut, where the cells are too clearly defined, to leave any question as to their nature. They are rounded or oval, having plump walls, which are distended with

Fig. 4.

a dark, oily, and granular matter, having here and the larger spherules or nuclei, which are indefinite in numbers, (vide 1, Fig. 4.) As they grow older, the shapes of the cells have a tendency to become more and more triangular, so much so, as in many cases to be distinctly pointed at the apex, (vide 2, Fig. 4.) According to the duration of these cells, so is their increase of consistency, and by so much is the diminution in the size of the globular nucleus or nuclei determinable. They all follow out a definite direction, being arranged in semicircular or linear strata—a course not pursued by the proper secretion either of true or false corpora lutea. This appearance is as distinctly discernible in the small bodies of like nature found in the ovaries of cows—the most striking difference being, that, whereas in the human ovary, the colour is black, in the ovary of the cow it is of a dull brick-red. Not only are the cells in many instances triangulated, but the whole black body partakes of the same shape, especially when near the surface of the ovary.

So far as my observation extends, this black secretion lies within, and between the cell-walls of the ovule, and, as a general rule, does not exceed tissue-paper in thickness. The minute anatomy of this black matter differs so remarkably from any ordinary appearances of blood, that it is clearly indicative of some fresh arrangement of molecular particles, consequent on local vascular excitement, progressing to a certain extent, yet in the end abortive. Where a Graafian vesicle has attained to a considerable size, and suffered disruption, with escape of its contents, then a series of changes commence within and between the cell-walls, in many respects similar to the foregoing, but more extensive, as also colorifically different, resulting in what is commonly termed a "false corpus luteum."

Nor is the presence of one action, causing the secretion of the black matter, incompatible with another action, terminating in the formation of the yellow matter.

When ovaria are examined frequently, it occasionally appears, that both yellow and black matter are found together, the black being internal to the yellow. The rationale of this appears to be somewhat as follows:—If a vesicle be small in size, and but slightly protruded beyond the walls of the ovary at the time of menstruation, or, if the ovarian walls be much covered over with false membranes, the vascular ovisac may become congested, (the menstrual act being dependant upon changes taking place in one or both ovaries.) The ovisac being loaded with blood, may secrete the black pigmentary granular cell peculiar to it in that condition. Should the vesicle have so far advanced in size, and in its granular contents, as to have materially thinned the dense ovarian walls, then the likelihood is, that it will burst, and in rupturing, that series of changes will commence within its walls, which will end in the production and full development of a spurious corpus luteum. If, however, the time of menstruation pass away, and this vesicle do

not burst, it will, or may, have the same characteristics as appear in the smaller follicle herein before-mentioned. Moreover, as the ovary is a gland liable only to periodical excitement, so it is reasonable to infer, that the follicle, having failed to rupture the walls of the ovary and peritoneum, remains stationary, or nearly so, for the next three weeks, when, the same series of changes recurring, the act of rupture may receive completion; and hence, again, the compound aspect (black and yellow colour) of the corpus luteum—the thin lamina of black secretion of the previous month, having been pushed towards the centre of the cell, and surrounded subsequently with the yellow secretion from the vascular ovisac.[1]

In only one instance, have I discovered this black pigmentary matter in the oviducts. It occurred in a woman who died of chronic disease, nine months and nine days subsequent to conception. It was found near to the pavilions, had a striated appearance, and, when microscopically examined, exhibited the usual appearance of granular cells, which, on pressure, exuded a considerable portion of dark-coloured oil. It yet remains to be observed, that this melanotic matter may be secreted in the ovaries, independently of any external signs of menstruation, it being found where the catamenia can be distinctly traced as absent. The following is a well-marked case in point.

Mary Bates, aged 29, has borne nine children, and is now a widow. The youngest child is three years of age, and the mother has not menstruated for two years. She has suffered from partial imbecility, consequent on two attacks of palsy, a condition that, by rendering her sister's attendance necessary, has placed her in full possession of all the facts of the case. She died from a third attack, and her sister clearly testifies as to the absence of the catamenia. The uterus is neither large nor vascular. The tubes are pervious. The ovaries are more than usually smooth on their surfaces, although, on close inspection, several old and half-obliterated cicatrices can be seen. One ovary contains six vesicles of the size of peas, which are vascular. In the opposite ovary, there are four pigmentary bodies, none of which communicate with the surface. There is also a well-developed vesicle in this ovary, with a very thin lamina of black matter between its walls. The pigmentary cells are quite recent. The conclusions are threefold. 1st, That menstruation has been a long time absent. 2d, That to the presence of melanotic bodies, menstruation is not a *sine qua non*. 3d, That, judging from the development of the vesicles, &c., the catamenia would soon have returned, had life been prolonged.

Reasoning from analogy, I once entertained an opinion that *true*

[1] Dr Ritchie believes the dyeing of the coats of the follicle of an inky black colour, to be merely mechanical, proceeding from their contact with the contained decomposed blood.

corpora lutea were only equivocal indications of pregnancy, or conception. The lower animals present facts which render such an opinion tenable with respect to them; and, at some other time, I hope to demonstrate it as incontrovertible.

In the human female, the more closely the ovarian functions are viewed, the more conclusive does the verdict seem, that true corpora lutea are never found, except as the products or sequences of conception.

It is very necessary that those characteristics by which a true corpus luteum may be distinguished, should be defined, as well as the means by which it may be known from other substances within the ovary,—substances that, to a certain extent, bear a resemblance, and which, being found by parties unable to draw a line of demarcation, have led to interminable differences of opinion and scepticism.

As regards structural peculiarities, or the exact mode of arrangement of the solid ingredients of the true corpus luteum, the greatest latitude must be allowed. The endeavour to narrow this law has, or appears to have, ever been a failing amongst those who have attempted a definition. From a great number of illustrations taken indiscriminately, it would be difficult perhaps to state which form or general outline predominated, or whether any two bodies, when examined comparatively, presented the same appearances. Nevertheless, an approximation sufficiently near does exist, whereby a decision may be guided, which can hardly fail of being correct, if taken in conjunction with other auxiliaries.

True corpora lutea are always to be found located between the proper tunics of the Graafian follicle, or, in other words, between the two ovisacs. I have seen a specimen in the human subject where there appeared to be a third membrane; and there is in my collection a similar appearance in the ovary of a cow. Each of these tertiary membranes is extremely thin, and in texture more or less reticulated. They give the idea, of being some portion of the granular matter of the ovum, in a low state of organisation. Furthermore, they do not wholly line the cavity of the corpus luteum, nor do they exist independently of its proper tunics.

True corpora lutea are always vascular in the early months of pregnancy. Numerous vessels branch forth into the solid substance, which originate in trunks ramifying over the vascular ovisac. By reason of this vascularity, the corpus luteum has a deep reddish-yellow colour, approaching sometimes to brown. This appearance is most plain on first dividing the ovary, but it rapidly fades on being immersed in water or spirits—the whole colouring matter derived from the blood oozing out—when the body assumes a dingy-yellow, or flesh colour.

In form, the true corpus luteum is round, oval, falciform, pyriform, or reniform. These may be regarded as the standard types, from each of which there are many deviations, referrible ultimately

to the one or the other. The periphery of a corpus luteum is mostly, but not always, scalloped.

A central cicatrix has always been associated with these bodies. This criterion is most just, and if always attended to, would obviate many erroneous descriptions, having reference not only to tubercle, but also to malignant deposits, which, to a certain extent, simulate them, but which are devoid of these central cicatrices. These cicatrices may be divided into groups. In some corpora lutea, the cicatrix does not present until a late period, and then results from the apposition of the sides of the contracted ovisac. In others, it is present from a very early period, and depends upon the specific secretion obliterating the internal cavity. Some have the cicatrix so diffuse, as to be at first difficult of detection, and capable of being traced only under a lens. A large cavity is not unfrequently found in the centre of the body, the inner walls being so moulded as to accord with the external shape. This, however, is not an invariable rule, as it has been known in more instances than one to push the solid matter to one side more than to the other, or even exclusively to one side. The proper substance is sometimes found both external to, and within the internal ovisac. This is readily explicable, on recollecting that the internal ovisac may recede from the outer one, whilst the secreted matter may find ingress through the aperture caused by escape of the ovum. These cicatrized bands partly depend on the puckering in of the ovisacs, and partly on the cellular tissue accompanying the blood-vessels throughout the substance of the body.

These points of difference may be inferred to depend on the greater or less size of the follicle originally; or the greater or less thickness of the internal ovisac; or the greater or smaller quantity of the matter secreted between the two ovisacs; or the amount of blood-vessels running into the yellow body.

Four types with their accompanying variations, may perhaps express the whole of the foregoing remarks.

1*st*. When the inner wall of the corpus luteum originates a cavity, the sides of which may be smooth, or scalloped, or lobulated.

Fig. 5.

2*d*. When the whole substance is solid throughout, but where also, the internal ovisac is visible as a minor circle, the space within it being occupied with the proper substance of the corpus luteum, instead of containing serous or granular fluid.

Fig. 6.

3*d*. When the centre of the corpus luteum is the seat of a stillate or radiate cicatrix, branching off on all sides towards the circumference. These stellæ may be both regular and irregular in form, and as a variety, more than one nucleus or centre of a ray may exist.

Fig. 7.

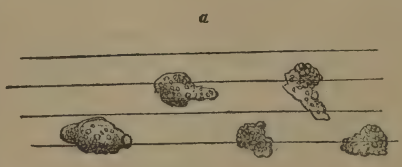
4*th*. The interior may be generally and irregularly striated; or, in other words, the septa of the two ovisacs may permeate the yellow body without having any one point of meeting in preference to another.

Fig. 8.

In each of these divisions, one law is persistent, viz., that one ray of the cicatrix extends to that point of the surface of the ovary, that has undergone rupture in consequence of the escape of the ovum or germ. This ruptured point is seldom found patulous,—few opportunities offering themselves for making an examination sufficiently early. Sir Everard Home found the orifice pervious in his "Case." I have twice seen the same thing in the ovaria of cows, the opening being large enough to admit the end of a blow-pipe. Dr William Hunter remarked, "that in the cases he had seen, no bristles would pass; it appeared to be an obliterated duct or passage grown together;" and Montgomery's extensive experience is the same.

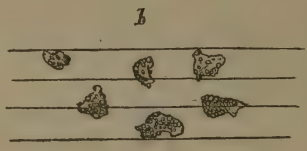
The microscopical appearances of true corpora lutea are somewhat different from those of the false,—sufficiently so probably to establish a diagnosis. The cells of a true body examined at the various periods have not presented the large nuclei or oil spherules, so constantly observed in the false corpora lutea. They are nucleolated, but the nuclei are much smaller. The figure represents the cell growths of a corpus luteum, found in connection with an ovum of one month's date. The case is as follows:—A woman, of irregular habits, presented all the symptoms of delirium tremens, — remained incoherent, — and died on the third day. On opening the body, the uterus was found enlarged, and fluctuated beneath the fingers; it measured 3 inches and 3 lines from the os to the summit;—was 3 inches across;—the neck was 8 lines long;—and the os, which was flaccid, measured $6\frac{1}{2}$ lines across, and contained a thin mucus. A deep and red injection of the superficial vessels was seen for the

Fig. 9.



breadth of an inch, running from cervix to summit. The same appearance was observed around the uterine orifice of the left oviduct. The oviducts were neither large nor injected. The right one was slightly more so than the left. The surface of the right ovary presented at its depending margin in front, a discoidal protuberance, of a dingy modena colour, the centre of which was yellow, and shaped like a horse-shoe. The yellow portion measured two-thirds of a line across, and was the protruding surface of the corpus luteum beneath. Around, and upon the yellow substance, were minute vessels. In the centre, was an elongated and bluish substance, being the early state of the superficial cicatrix.—The ovary measured 1 inch $6\frac{1}{2}$ lines in length, and 9 lines in extreme breadth. Proceeding from the fold of broad ligament, found between the oviduct and ovary, were a number of tortuous arteries and veins, converging to pierce the gland. A section through the centre of the cicatrix developed an orange coloured corpus luteum, of a reniform shape, (vide Fig. 8,) the convexity corresponding with that of the ovary. The ovary was very vascular. Ether dissolved the yellow substance, by disintegrating the oily cells. The embryo was semiflexed, and in this position did not measure more than $2\frac{1}{2}$ lines in length. The extremities appeared as leaflets; the divisions of the vertebræ were perceptible; and the chorion was just beginning to branch out and subdivide. The annexed cut represents the microscopical anatomy of a corpus luteum, dating between the 4th and 5th month. It was obtained from the body of a woman who aborted whilst suffering from fever. She died a few days afterwards. The cells are somewhat smaller than those of the corpus luteum bearing date one month.

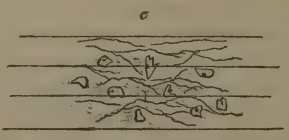
Fig. 10.



So far as my observation extends, corpora lutea do not begin to retrograde, much before the 4th month; after which period, they slowly and gradually decrease in size, the cells becoming smaller, and the molecular granules appearing less and less distinct, until two or three only are seen lying within the shrivelled cell-walls.

Fig. 11 represents the microscopical anatomy of a corpus luteum, bearing date twelve months and a few days. It was taken from the body of a young woman, aged 23, who died of phthisis, three months and fifteen days after delivery at the full period. This and several other preparations came into my possession through the courtesy of Dr Francis. The corpus luteum has a lobulated circumference, and is as large as a small horse bean. The colour approximates

Fig. 11.



closely to that of the ovary. The granulated corpuscles will be seen to measure very little more than the 1-2000th of an inch in diameter. They are greatly shrivelled. Some contain the remains of nuclei, whilst others are simply granular. The ovary measures 1 inch 8 lines in length, and $5\frac{1}{2}$ lines in breadth, thus, not exceeding much the average measurements of ovaria without corpora lutea.

Dr Montgomery observes, that he is unable to state the exact period at which the corpus luteum disappears, but that he has found it distinctly visible, so late as the fifth month after delivery at the full period. The appearances, as regards average size of degenerating corpora lutea, are variable in the extreme, some of the ninth month being as small as others of a date three or four months later.

But notwithstanding the discrepancy with regard to common appearances, the cell structure appears to preserve a fixed standard of decrease.

I think I have seen a true corpus luteum existing as a dense capsule, as late as the seventh month after delivery. This occurred to a soldier's wife, who became a patient in hospital in September 1843. She was mother of four children. After recovering from an acute febrile attack, dropsy set in from granular disease of the kidney, of which she died on January 2, 1844. On the upper and depending surface of the right ovary, there existed a button-like protuberance, bearing in the centre a triangular cicatrix, and measuring $3\frac{1}{2}$ lines in diameter. It was whiter than the remainder of the ovary. Blood-vessels were yet seen ramifying on the upper surface of the prominent body. Beneath the cicatrix was a cavity, capable of holding a pea, bounded by a dense, white, and corrugated capsule, about one-third of a line in thickness.

The microscope seems especially valuable in deciding those dubious cases, where spurious bodies resemble somewhat degenerated true ones; and *vice versa*.

Corpora lutea are frequently styled glandular bodies. By Hunter they are said to be "tender and friable, like glandular flesh." Sir Everard Home states them to be "glandular structures which form the ovum, disappearing gradually when it (the ovum) is expelled." Premising the ovary to be a gland, then its proper function is secretion; and a gland can hardly be supposed to produce a gland within its own substance. Taking the proper signification of the word "gland," the corpus luteum does not appear to be at all glandular, but merely a collection of cells secreted by a gland, sometimes nucleated, and sometimes filled with molecular oily particles.

The only plausible hypothesis that seems adducible, to account for the difference in structure, &c., of true and false corpora lutea, rests in the changes effected in the impregnated ovum prior to its

escape from the ovary. These changes, together with the appearances put on by the ovisac, are fully detailed by Dr Martin Barry, in the *Philosophical Transactions.*

Tubercle, and cerebriform cancer, are perhaps the structures most readily mistaken for corpora lutea. In the former, however, the matter is seen located *within* the proper tunics of the Graafian vesicle, and *not between* them. Added to this, the structure of the specific substance is homogeneous, and not separated into lobuli by cicatrices. There is also an absence of the external cicatrix, which is ever present in true corpora lutea.

The appearance of these bodies in the ovaries, after a successful intercourse, is so remarkable, that it is impossible to contemplate their structure and nature without being led to ask the question, *Cui bono?* The disruption of the ovarian stroma, caused by escape of the germ, might simply terminate in a cicatrization, and the cavity might easily be obliterated without the formation of this post-product. The idea that it is present to facilitate the passage of the ovum through the ovary, by contracting upon the fluid posteriorly, is an opinion too hypothetical, and too little substantiated by facts, to be received as a solution. The testis brings to perfection its spermatozoon, which is evacuated: the ovary is its analogue in the female, and secretes the ovum. Both are glands, and the function of the one is no more remarkable than that of the other; yet on the casting off of the vital germ, other phenomena arise terminating in the production of a new substance. A series of well-conducted observations, on any sympathy that might exist between premature abortions, and the accelerated decline of the corresponding corpus luteum, would be a valuable addition to the facts already collected. The bodies are too evanescent to leave any permanent impression on the surface of the ovaries; and as yet, observations are wanting whereby they can be shown to have any direct association with the healthy development of the intra-uterine fœtus. Their simple presence in the ovary, when considered intrinsically, or as unassociated with ulterior purposes or functions to the economy, appears so unnecessary, so little connected with the integrity of the gland in which they are found, and so remote from any presiding action that can be inferred to occur during the months of child-bearing,—that physiologists have neither attempted an explanation of their presence, nor ventured upon any hypothesis concerning them.

The human female ovaria are large in comparison with the ovaria of other animals. Thus I have found the average size of the ovary in the cow, when quite free from corpora lutea, to be 1 inch $4\frac{1}{2}$ lines long, and 8 lines broad. In the human female, taking the same calculations, they average 1 inch 4 lines in length, and from $6\frac{3}{4}$ to 7 lines in breadth. The following is a table of the measurements of forty-three ovaria, chosen when the persons were all above pu-

berty, and in the child-bearing period of life. No ovary is measured containing corpora lutea of the true type.

No.	Condition of Ovaria.	Length.		Breadth.	
		Inches.	Lines.	Inches.	Lines.
1	Woman of middle age who had borne children,	1	3	...	4
2		1	4	...	4
3	Woman had borne four children, and was aged 27	1	3	...	7
4	years,	1	4	...	7½
5	Woman aged 20, who was unmarried, and died of	1	5	...	6
6	phthisis,	1	6	...	6½
7	Young person dying of pneumonia, and unmarried,	1	2	...	8
8		1	6½	...	8
9	Woman dying of fever, after abortion—opposite ovary contains the corpus luteum,	1	6	...	6½
10	Young person, aged between 20 and 30,	1	4½	...	6
11	....	1	8	...	7
12	....	1	8	...	6½
13	....	1	7	...	7
14	Woman, age averaging between 20 and 30,	1	3	...	6½
15	Woman, borne three children, and dying of phthisis,	1	4	...	7
16		1	2	...	5
17	....	1	3	...	7
18	Woman who had borne children,	1	3	...	7
19	....	1	2	...	8
20	Woman unmarried, and aged 25 years,	1	4	...	7
21	....	1	4	...	6½
22	Young unmarried woman,	1	8	...	8½
23	....	1	6	...	6½
24	Middle aged person, whose pregnancies are doubtful,	1	9	...	9
25		2	0	...	8
26	Woman, aged 33, dying during pregnancy; opposite ovary has corpus luteum,	1	2	...	7
27	....	1	3	...	7
28	Woman who has borne four children,	1	4	..	7½
29	....	1	2	...	5½
30	Woman, aged 33; opposite ovary has corpus luteum,	1	2½	..	7
31	Woman, aged 34, who had borne seven children, and	1	7	...	8½
32	died of phthisis,	1	7	...	9½
33	....	1	1	...	6
34	....	1	8	...	5½
35	Woman, aged 23, dying of phthisis,	1	2¾	...	5½
36	Woman, aged 23, dying of phthisis,	1	7	...	6¾
37	....	1	5½	...	6½
38	A girl aged 19, dying of phthisis,	1	0	...	5½
39	....	1	0	...	5
40	Woman aged 35,	0	9½	...	6½
41	....	1	1	...	6
42	Woman aged 29, who had not menstruated for 2 years,	1	2½	...	6½
43	....	1	3	...	8

As the child-bearing period passes away, and the procreative powers decline, so in proportion is the glandular system, appropriated to these purposes, seen to decline also. The ovaries shrivel, but the shrinking is nearly all lateral. Cicatrices are seen, but longitudinal striæ or depressions are mixed up with them, giving

the ovary an appearance as if gashed with a knife. This is caused by the lateral contractions of the gland, which go on for some time, until an ovary once measuring seven lines across, will frequently be no more than two lines.

The aptitude for child-bearing at puberty is associated with a rapid increase and development of the ovary and its specific secretion. The first design in the animal economy appears to be a retardation of the generative or super-system of parts, so that time may be allowed for all the organic functions immediately affecting life, to be either fully constituted, or to be rapidly advancing towards completion, in order that collision of action, with consequent blight to both, may be avoided:—for, as Dr Walker expresses the fact, in his work on intermarriage, "a premature development diminishes both strength of body and vigour of mind—deteriorates all moral qualities, and is extensively fatal to life, and its permanent enjoyment."

In like manner, the ovaria preside over the decline of the reproductive functions. This may be a part only of a general system of decay, manifested more particularly in the glandular system; or, it may be urged that the powers of absorption, at this exact period, predominate over those of secretion, and therefore, as the development of Graafian vesicles pre-supposes an action diametrically the reverse, they can no longer be protruded—whilst those already advanced will undergo gradual degeneration. Hence the small puckered cysts or ovisacs, of a white colour, so commonly found about this period.

Moreover, as during the entire child-bearing period, the vital energies and functions of the female may be counted as in the ascendant, and indeed excessive, so, at the critical period it is that the balance is struck, and an equilibrium constituted, which shortly gives place to a gradual decline, the vital powers becoming more and more taxed to maintain the integrity of the organism. Thus, as the reproduction of the species is a function altogether superimposed on the physiological organisation of the parent, when the parent organism shows signs of decreased vitality, the reproductive system may be inferred to be that most likely first to become inoperative, and to suffer decay.

JUNE 30, 1845.
10, PICCADILLY, MANCHESTER.

PART SECOND.

REVIEWS.

Lehrbuch der Allgemeinen Krankheitslehre. Von Dr Carl Heinrich Schultz, *Zweiter Theil.*

(*A Treatise on General Pathology. By* Dr C. H. Schultz, *Professor in Ordinary at the University of Berlin, &c.* Part II. 8vo, pp. 433, 738. Berlin. 1845.

Somewhat more than twelve months ago we had the pleasure of recommending to the attention of our readers, the First Part of the work of Schultz, the learned Berlin Professor of General Pathology; and the Second, which concludes his Treatise, having recently reached us, we proceed to discharge the same duty towards it. The former portion, we characterised as pre-eminently novel, ingenious, and somewhat abstruse; and the latter strikingly presents the same peculiarities. The author, we perceive, is far from being satisfied with the entertainment which his views are receiving in the enlightened capital where they are promulgated, and from the members of the profession with whom he comes more immediately in contact. Many reasons could, perhaps, be readily assigned for this; of these, however, we shall only allude to what we have specified, as the prominent features of the volume. Let a work be at once novel, abstruse, and suggestive; and the necessary result will be, that however accurate and important, it will not at once, or speedily, command general approbation, and far less, popularity. It is too abstract for the apprehension of the general professional mind, and those who can appreciate its merits, are often not in the circumstances or the mood, to give a free and liberal suffrage in its favour. Hence, incompetent persons criticize and condemn. Under such circumstances as these, the part of wisdom in the author is to be calm and patient; for it seldom happens that true merit, and the introduction of real improvement do not finally receive their reward. And, whilst we give this word of encouragement to the distinguished professor, we must candidly remark, that there is not all that elaboration and exactitude in his work which is desirable in one of such pretensions, and of such merits. We have long held, that if a man thinks clearly, he will write luminously; and yet with every disposition favourably to regard the productions of Professor Schultz, we often are vexed with an obscurity of style, sorely trying to the patience, and which may somewhat account for that want of acceptability of his doctrines of which he so keenly complains.

This Second Part of the Pathological Researches commences like the former, with a somewhat extended summary of those particulars in which Dr Schultz conceives that his investigations have thrown additional light upon our science, in indicating error, and elucidating truth; and we believe, that, as on the previous occasion, we will most profitably employ a part of the space our narrow limits afford, by giving what may be regarded as the author's own abstract of his discoveries and views.

Resuming at that part of his subject where, in the former volume he left off,[1] the author commences the present,

1. With some observations upon the important subject of *Fever*, expressing

[1] See Monthly Journal, volume for 1844, p. 497.

his dissatisfaction with the prevailing theories, whether inclining to the schools of humoralism or solidism. When the great variety of fevers, not only idiopathic, but symptomatic, is borne in mind, every one must agree as to the immense importance of attaining correct and definite ideas of their true nature and character. The difficulty, however, is proportionably great; and is much increased in the apprehension of our author, by the fact, that the tide of opinion, as indicated by the sentiments of the majority of the able men who have lately devoted their energies to the elucidation of this class of diseases,—is running strongly in favour of the doctrine of solidism; most of them believing that fever is due to a disease of the nervous system. In examining these theories, Dr S., eschewing speculation, keeps close to the express indications of nature; and has thus, he thinks, demonstrated both the insufficiency and the impracticability of these, as well as those based on the humoral pathology, satisfactorily to explain the phenomena. In opposition to them all, he contends that fevers are owing essentially to a disordered state of the blood, and a diseased condition of the circulatory system.

2. Dr S. proceeds to show, that every exposition and explication of fever must be based upon the physiological doctrine of the organism of the circulating system, in which fever has its seat. That popular theory, which may be termed the inorganic circulatory one—which has been derived from the discoveries and views of Harvey—is applicable only to a piece of dead hydraulic mechanism, and can never be brought to harmonize with the appearances which exhibit themselves in disease. The phenomena of fever especially, are altogether incompatible with this theory. According to our author, on the other hand, fever owes its origin to a derangement of the process of organization which is ever occurring in the blood; and viewed in this light, he conceives that he has brought his theory into thorough keeping with the therapeutic indications, inasmuch as the disturbance in the process of the blood's organization is thereby removed. In working out this problem, particular care has been taken to distinguish simple fever from those feverish disorders with which fever is sometimes connected and confounded. This theory throws much light upon the states of the constitution in syncope, and asphyxia, and exhibits their causes in a light different from any which has previously been suggested.

3. Dr S. states, that had it been possible to have written a complete monograph of individual diseased actions, he could have supplied a complete and satisfactory exposition of the important relations which subsist between the peripheral and central movements of the blood in general, and in such conditions as occur in syncope, asphyxia, and fever in particular. In the abstract, however, he can only shortly allude to them. In *Syncope*, he maintains that there is a complete contrast to the state of matters which occurs in fever; and that this arises from the opposite condition, in which the circulation of the blood is found in the central and peripheral portions or systems of the frame. In fever, the organizing process of the blood, as well as its movements, are languid and somewhat stagnate in the peripheral system,—whilst, on the other hand, the central circulatory system is in a state of excitation. In syncope, the reverse takes place;—the peripheral movements in this disorder, as in sleep, gaining the ascendancy over the central, so that the central movements of the blood become somewhat, and comparatively stagnant. As may be readily supposed, between the extremes, all possible gradations may, under varying circumstances, be observed: the movements of the heart in this latter condition, may be only slower and weaker, or they may become intermittent, with palpitations, or they may cease altogether. The peripheral movements of the blood meanwhile continue, and were not this the case, syncope would terminate in death. The state here described is that which exists in sleep and hybernation, wherein the process of nutrition is little or at all disturbed. All the natural secretions continue; and it is the nervous system alone which is affected; because with the stagnation of the functions of the heart and lungs, the whole vital energy of the blood becomes depressed. In fever, the process of disorganization, or depuration of the peripheral circulation, has the ascendancy over the central; while in syncope, the reverse is the case; in the latter condition, the motion of the blood is abnormal,

and reduced to the condition in which it is found in plants; hence, there is a failure of the animal powers, and debility in the animal functions, so far as these are dependent upon the vitality of the blood. This, then, is the essential character of syncope. What has been called asthenia by Brown, and adynamia by others—even when it occurs in feverish complaints—must be regarded as closely allied to the condition of syncope. This state of matters in fever, as in all other disorganizing processes, may be converted into its direct opposite, and so become syncope; and many gradations and complications intervene. Asthenic fevers are those which assume the character of syncope; and in which such symptoms as palpitation, extreme depression, and intermitting pulse occur, forming the transition states. This relative condition of the central and peripheral circulation is not to be considered as the effect of the mere quantity of the circulating fluid; it is a changed and abnormal relation of the movements of the blood in the two systems; and it is this change of relation—this derangement of the processes of organization—which produces fever, whether witnessed in its sthenic or asthenic type.

4. The doctrine of the *Pulse*.—Dr Schultz describes more minutely, than in his work upon the circulatory system, the effect of the peripheral motions of the blood. The changes in the character of the pulse, it is important to note, do not depend entirely upon changes in the action of the heart. The direct opposites of many states of the pulse, such, for example, as *celer* and *tardus*, *frequens* and *rarus*, are expressions of the opposite conditions of fever and syncope.

5. His investigations into the *Diseased Conditions of the Blood*, are those which Professor Schultz esteems the most important and valuable of all that he has published. He considers that they were much desiderated in practice, and in dynamic humoral pathology; they were wants which since the time of John Hunter's great exertions, had been much felt, and never satisfied,—and desiderata to the supply of which Autenrieth, Hufeland, Kielmayer, and Stieglitz devoted their lives. These discoveries, however, at once clear and useful, were no easy task, amidst the labyrinth of the recently accumulated, and still increasing pathology of the blood. The modern chemical pathology of the blood has thrown such a shade over the vitality of that fluid, that anything like clear apprehensions upon this point were scarcely attainable. To a criticism of this chemical pathology, our author has devoted much attention; and considers that he has done good service in removing many of the obstacles which lay in the way of the reception of a correct view of its organization, and in placing the chemical theories respecting the blood in their true position, as bearing upon the conditions of life, and the sequelæ of life, and so clearing the field of organic life for the investigation of the physician—without wholly excluding chemistry, however, as has been too much done by dynamic physiologists. A just and correct estimate of the valuable chemical labours of Andral, Gavarret, Simon, and Nasse, as well as those of our author, was imperatively required, and the more so, as explanations altogether different from those they could afford, were anticipated from them. The description of the organic differences of the various diseases of the blood is prefaced by an inquiry into the physiological laws of the reproductive organization of the blood. In the first portion, a full exposition is given of the different diseases of the blood, indicating its deviations from its healthy organic constitution, and at the same time showing the relations in which these different pathological conditions stand to the different diseases in which they appear. Whence it follows, that in one and the same disease, the distinctive conditions of the blood may become exceedingly dissimilar.

6. From the organic pathology of the blood there results, as might naturally have been expected, an entirely new view of *Plethora*, and the abnormal movements of the blood. Connected with this subject, attention should be directed to the explanation afforded of *congestions of the vena porta*, and the important morbid states which are consequently witnessed, and which have given rise to so many keen discussions. The relation which this morbid state of parts bears to the spleen is also recommended to the attention of the physician. The vena porta

is a vessel in which the phenomenon of the arterial circulation is, as it were, repeated; and notwithstanding, it is classed as a portion of the general venous system. In this vessel, there is an epitome of the vascular system, as there is an epitome of the nervous in the ganglionic system. The vena porta is an isolated, and altogether peculiar vascular system, the true exposition of which will never be found in the mechanical theory of the illustrious Harvey. The deficiency of an organic physiology bearing expressly upon this system is still severely felt.

7. The antiquated *Theory of Hemorrhage*, still prevailing, essentially based upon mechanical laws, by which are explained that large class of diseases—the hemorrhagiæ—which so frequently cut short the thread of life—cannot stand the light of the physiological and pathological doctrines which result from the knowledge of the organization of the blood. Hemorrhage is neither a transudation of the vital fluid, nor a secretion. In illustration of its real nature, the vascular system may be compared to the intestinal canal, and the blood to the vivified chyle; the vascular system holding the same relation to the chyle that the intestines do to the food. The vascular system raises its contents to a higher state of organization, and supplies them to the different functions of the frame, or discharges them as superfluous, according to the requirements of the different organs. The phenomena of the processes in their abnormal deviations constitute the diseases of the blood.

8. The doctrines of *Diseased Respiration* require in a similar way to be remodelled, and that, in relation to the laws of animal organization. Particular attention is in this part of the treatise devoted to the more important topics, whilst such subjects as yawning, laughing, and stuttering, are not neglected. Upon the latter most disagreeable infirmity, some interesting views are offered.

9. An explanation of the phenomena of *Hunger*, especially in its morbid phases, is supplied; and with special reference to researches (detailed in the former part of the work), upon the state of the blood, in animals starved to death.

10. It is also demonstrated that the whole *Theory of Dyspepsia* must be founded upon the doctrine of the organism of the blood, its living assimilation and nutrition. A distinction, moreover, is made between dyspepsia occurring in the *stomach*, and the disease occurring from an affection of the *cæcum*. This distinction has hitherto entirely escaped the observation of physicians; but it will be found in unison, both with the phenomena of digestion, and of the disorder.

11. That class of disorders which arises from a morbid condition of the chyle, —*Dyschylosis*—finds, even more strikingly than dyspepsia, the exposition of its cause, and its elucidation, in the theory, or rather in the facts connected with the organisation of the blood. The miserable and incorrect views hitherto entertained of the changes effected in the different elements which go to form the chyle, entirely vanish before the right apprehension of those abnormal states of which these changes are the basis. The common theory of the acrid condition of the lymph found in scrofula, will never enable us to give a satisfactory account of the disordered state of the whole constitution from defective nourishment, and which destroys man in the very spring and elasticity of childhood and youth. The natural processes may no doubt be affected by pure chemical agency, but all the appliances of mere chemistry will never nourish the frame with inorganic matter. The distinction made by the author between dyschylosis of the duodenum and that of the cœcum, he believes to be founded upon indications which are supplied by nature herself.

12. The diseased processes occurring in *Inflammation, Formation of Pus, and Granulations*, have, in a general way, been associated; but neither the chemical analysis of pus, nor the anatomical view of cells, has thrown all the light upon the organic process which is desirable—a process in which the several stages are usually closely linked together. In it, the retrogression of the animal organisation into the vegetable is truly striking, and the relation between internal inflammation, and the eruptions of the skin, in the exanthemata, for example, is apparent. A clear conception of the healthy and diseased organisation in in-

flammation and its terminations is most important both for science and humanity.

13. The pathology of the *Diseased Secretions*, like the doctrine of Inflammation, must be freed from the humoral pathology and mere chemical theories; attention at the same time being paid to the important fact, that the process of life maintains unceasing relations with the external world. These being kept in view, together with the constitution of the frame, and its egesta, the doctrine of diseased secretions may be considerably elucidated by the phenomena of the living organism; and the unhealthy secretions may thereby be readily restored to their normal condition. This is well illustrated by the account given of the morbid state of the urine.

14. Dr Schultz, in his work on the living organism, has given a physiological view of the morbid actions occurring in animal and human life, with special reference to the discoveries in the mechanism of the *Nervous System*, by the late Sir Charles Bell, and Dr M. Hall.

15. The whole department of *Etiology*, according to our author, must undergo a thorough reform. The prevailing method in this branch of science has, perhaps more than any other obstacle, prevented the transition, from the humoral pathology, to the doctrine of the living organism, as the origin of disease. When innumerable agencies, such as, wind and weather, the influences of the senses and the mind, tumors and indurations, carbonic acid and dyscrasias, &c. &c., are all mixed up as ingredients in the production of one, or of many diseases, without an effort to estimate the value of any one of them, no great progress can possibly be made in ascertaining the true origin of disease. The author's investigations into the organism of the death processes in the external world, are capable of further extension; and after an acquaintance with them, no one will henceforward be satisfied with the old constitutional doctrines (katastasiology); but will endeavour to make the etiology correspond with the therapeutics; and both, with the disorganizing, and organizing processes of vital physiology.

16. The author claims particular attention to his views of *Contagion*, because he regards the prevailing doctrine as nothing better, to use his own phraseology, than "a vile parasite, ensconced in the old mantle of the ancient humoro-pathological doctrine of causes,—a parasite which has so overborne the doctrine, as quite to have destroyed and superseded it, whilst no other has been substituted in its place." The importance of a correct doctrine of contagion will not be disputed. Of such, the ancients were wholly ignorant, though they were familiar with the laws of infection. The doctrine is quite a modern one; and it is worthy of remark, that the old etiological doctrines, though quite opposed to it, have been incorporated with it, and yet, without having undergone any change. The author has pointed out the origin of the doctrine of contagion in the Principles of Paracelsus, and drawn attention to the remarkable contradiction, that a parasitic doctrine of contagion has been conjoined to the new, without bringing the opposing elements of the two into any degree of harmony. The modern, and what may be called the natural history of pathology, owes its origin to this doctrine of contagion, and has thereby obtained the greater consideration. This pathology, however, is nothing more than that which Paracelsus taught. Accordingly, it requires additional development, instead of remaining, as it has hitherto done, in the unintelligible position of the ancient Paracelsian dogmas, according to which, contagion was erroneously regarded as the disease itself, in its germinating and propagating state. If true progress, on the contrary, is to be made in the investigation, the agency of contagion must be brought into keeping with the agency of all the other causes of disease. Accordingly, this parasitic, or recent, doctrine of contagion has been remodelled, so as to bring it into natural connection with the other causes of disease.

So much for Dr Schultz's abstract of the novelties contained in his volume. It embraces moreover, a review of the particular application of the general laws of disease, (which were analysed in the former volume,) throughout the individual morbid appearances. In this Second Part of the work, the organic

analysis is practically applied; and this new method of considering disease required an explanatory introduction; and so much the more, as the explanation of these researches turns upon the organic analysis. By this means, Dr S. conceives it is possible to trace diseased action into its most hidden recesses, throughout all the morbid processes of life.

These investigations by organic analysis differ from all past pathological investigations, whose aim and object has always been to elucidate morbid appearances by analogies and comparisons. The descriptions of organic analysis being derived from the nature of the disease itself, supply, not a mere physiological or natural-history pathology, but a pathology of the morbid parts themselves.

The most important conclusions derived from this organic analysis are thrown by the author into the shape of APHORISMS; and we cannot do better than present them to the reader.

1. Disease is not a mere lesion of the process of health, nor yet a new parasitic organism in the frame, but it is a destructive, or death process, in a state of antagonism to the healthy one (Nekrobiosis).

2. Health consists in a continued renewal of the frame by means of two processes of organization, namely, a formative one (ananeosis), and a depuratory one (apobiosis).

3. The unhealthy destructive process arises from the prevalence of the depuratory over the formative agency; and the possibility of disease depends solely upon the continuance of the renewing process in the body. Disease is inoculated into life at birth, and never quits it.

4. In the destructive process, diseased life sinks to the level of vegetable life; and there is no internal active organization. The internal normal organization is entirely suspended by disease, because the processes of formation and depuration are confounded.

5. Disease, as a destructive process, essentially depends on the antagonism of the organism to the external world, and not on their harmony, as was the ancient view. The laws of motion in the external world are not therefore identical, but opposed to the laws of the organism. It is therefore erroneous to say, that the organic principle of life is controlled by the active laws of the external world.

6. The active powers of the organism consist in the continued flow of active organization, the organism maintaining itself independently of the external world, and only subjecting and assimilating it.

7. These powers proceed from the vital independent movement of the organic primary elements, in opposition to the material elements of the external world, which act in accordance to the laws of chemical affinity.

8. The product of organic inherent movement is the living power. This vital power is not simple, as the cause of life has usually been considered, in the prevailing dynamic doctrines, but is created and renewed by organic powers as the body itself is.

9. Chemical agency destroys organic life; and organic vitality and active organization overcome chemical affinities.

10. The external world, with its chemical and physical agencies, supplies the elements for active organization; whilst the organism, on the other hand, by its depuratory process, and its mortal remains, is continually making compensation to the external world.

11. Chemical and physical agencies operate only at the commencement and termination of life. In the organism itself, there is a constant destruction of chemical elements by assimilation and formation, but no organic activity originates in a chemical process.

12. Whilst hitherto organic life has been subjected to chemical laws, the process of the conditions of life and its remains have always been confounded with the vital process itself. All the errors of modern physiology and pathology have been based on this mistake.

13. In the destructive process of disease, the chemical and physical laws of

the external world exert an influence, in proportion as, the active organization loses its power, and is subordinated to these other laws.

14. Hence, chemical agency exerts itself in the frame, in the course of disease, but in this contest with life, an abnormal chemistry is produced; whence the destroying elements arise, as witnessed in the vegetable kingdom.

15. Those agencies which have hitherto been considered as the causes of disease are combinations of elements most opposed, and whose effects have never been analysed, because erroneous notions have been held concerning the nature of disease itself. These errors were derived from the ancient doctrines of pathology, commingled with the entirely opposite and modern ones of contagion.

16. The true and only cause of disease is the destructive or death process. This may arise from internal causes, as well as from the influence of the external world. When from the latter class of causes, the effect is not an absolute one, as was taught of old, but its agency appears only as conditions of death, and they therefore act only through organic processes, in the same manner as the conditions of life and the restorative process.

17. The power of the external world to cause disease, consists, not in the quality of the external influences, but, on the contrary, is dependent entirely upon the re-action of the body. The frame becomes diseased, solely through its own proper organism.

18. Under any circumstances, ere disease is produced, the normal organism must be infected by the destructive process. Every disease is in this way a process of infection of mortality. This infection must not be confounded with the infection leading to production, which is the modern doctrine of contagion. It is an infection of the life agency, opposed to organic production, and active organization.

19. Contagious and non-contagious diseases originate essentially in the same manner.

20. The destructive process in disease is different in the different organs and functions, according to their peculiar self-excitement.

21. Restoration to health no more occurs as the result of a *crisis*, than disease does as the effect of the simple impression of so-called external agencies in the frame.

22. What has been called "critical matter" is derived from an unhealthy process of depuration, which, again, is always to be regarded as a token of existing disease, and not of health.

23. Genuine restoration to health, is a new process or generation out of disease; this renewal from disease (anabiosis) may be distinguished from the normal process of renovation, (ananeosis), as the two morbid renovations have each their own peculiarities.

24. Every such process of renewal or rejuvenescence from disease, consists of depuration as well as of healthy organization. The former throws off the *residua* of life, but there is nothing in these peculiar to disease; and if we designate diseased depuration by the term *crisis*, so should we call healthy depuration; and thus, there would be a crisis in health, not less than has been alleged in disease.

25. The process of cure can never tend to produce a crisis, for as many die as recover in the crisis. Recovery is owing solely to a renewed organizing process (anabiosis.)

26. The alleged principles of cure expressed by the phrase *cantraria contrariis curantur*, is an old Empedoclian error, arising from false notions of the laws of the external world applied to the organism.

27. The principles of the Hippocratic school would compel its advocate to retreat upon the rude natural doctrine of qualities.

28. It is impossible to cure a disease by means of pure physical forces; and as little can we induce healthy organization in a diseased person, by means of chemical remedies.

29. The doctrine of stages and types of disease is based upon the error, of regarding disease as a living organism, endowed with different periods of life. What

are esteemed as stages and types are merely periods of abnormal health, belonging essentially not to disease, but to health.

30. Diseased formations, regarded by pathological anatomy, as causes of disease, are rather the effects and products of the destructive process overcoming the healthy one. We have designated these formations, diseased growths, as they embody the destructive process.

31. Morbid growths, like most other diseased formations, have an organic life; hence, there are animal and human organisms (anaphytosen), thrown off in different ways. The absence of internal active organization is the origin of of them all.

32. The prevailing doctrine of symptomatology includes the symptoms of disease in the obsolete category of ancient qualitative medicine, and unnaturally disjoins the symptoms from the disease, whilst the symptoms are truly an expression of the disease. The true relation of symptoms as morbid actions to the disease, are, in this way, quite lost; and the more so, as under the name of symptoms, (as we observed of causes,) the most heterogeneous materials have been associated. According to the Professor's system, there are symptoms, in the old acceptation of the word, neither of disease nor of health.

33. Disease is active, only through the agency of the destructive process, whose internal relations must be studied in the organic laws of development.

34. All this agency in disease arises from a common death germ, and the structures to which it affixes itself. Reference to this agency at its origin, is the best method for effecting the organic analysis of diseased actions.

35. Disease spreads by the development of new actions, proceeding from the pre-existing ones, the organic laws and sympathies whereof, together with their abnormal deviations, regulating the cause of the extension.

36. The sanatory power in nature resides in the active organizing process, and is nothing more, than the preponderance of the renewing life, over the destructive process of disease. It is the operation of the active organizing which prevails during health; when it ceases, the destructive process in its turn triumphs.

37. Dissolution is the prevalence of chemical and physical agencies over the waning organizing process, till it becomes extinct. The mere organic form is subject to the laws of the external world; the members become burdensome, the patient succumbs, the frame is dissolved, and vital excitement gives place to chemical decomposition.

38. Indisposition is the intrusion of the laws, not the introduction of the elements of the external world into the organism. Recovery is the expulsion of the noxious agency, and the triumph of the organism by means of renewed and active organization.

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41. As all life springs from the midst of dead elements, so health is a process of resuscitation from the ruins of disease. The processes of suppuration and granulation whereby a cure is effected in wounds and eruptions, are repeated in every disease, according to the nature of the different organs.

42. The process of cure of all internal diseases, may be studied in the simple process of the healing of a wound.

In giving a summary of Professor Schultz's views and researches, we have not, as will be perceived, attempted any thing like a criticism of them; to have done so, would have required more time and space than we at present possess. Whatever may be the ultimate fate of these opinions, we are convinced that in the meantime, enough has been stated, to stimulate inquiry and reflection. In objecting so strongly to the system of solidism which has so long prevailed, and to the ancient, but somewhat modified doctrine of humoralism, as being most unsatisfactory, and insufficient to account for the origin of disease, it may be feared, that the author has embraced too pure a vitalism. However this may be, we cannot help thinking, that if no other good be accomplished from his labours, than directing attention to the body, more as a living machine than a piece of mere curious mechanism, much good to science will arise. For

we have as little sympathy with those who tell us, that "every thing organic is a mere determinate arrangement resulting from a union of mechanical powers,"[1] (eine bestimmte Form der vereinigung des Mechanischen,) as with those who affirm "that the only known and ultimate cause of vital activity consists in various chemical processes."[2] (Die einzig bekannte undletzte ursache der Lebensthatigkeit ist ein chemischer process.) We feel satisfied that if any advance is to be made in our knowledge of the origin of disease, it is to be accomplished through the investigations now making, both in physiology and pathology, by means of the microscope. It may not be in our day, but the time, we have little doubt, will arrive, when through these means a complete overturn of many of our now most cherished doctrines will be accomplished; and give place to what Dr Schultz calls more organic views.

In reference to this subject, we may also state, with all deference, that in our opinion, *too exclusive* an attention has been paid to pathological anatomy. Too many rest satisfied with a mere knowledge of morbid appearances; but these alone will do little for us. Where shall we find a more patient, clear, and laborious elucidation of the morbid appearances of phthisis, than in the work of the learned and accomplished Louis; in as far as these are concerned, he has left, if we may so speak, no gleanings for any future comer; the practical question, however, still remains:—what advance have these enabled us to make towards a more intimate knowledge of the primary cause of the disease—the process of which these are the palpable demonstration? Have they led us to a more rational and successful treatment? The summary and appreciation of remedies by M. Louis will speak for itself. Let us not be misunderstood, however: we are far, very far, from depreciating the value of pathological anatomy; we only wish it to be kept in its right place, for we perfectly agree with M. Louis, that "in proportion as our knowledge of the affection becomes more perfect, the mind feels relieved, the horizon clears, and the attention of medical observers naturally commences to direct itself to the investigation of the higher questions of etiology and treatment." It is for these higher ends we plead, and though there must be a limit to all human knowledge, and though there are mysteries into which we shall never be able to penetrate, yet, we believe, we have not as yet reached the full extent of which we are capable.

Our earnest desire is to impress on the minds of our younger readers, that PATHOLOGICAL ANATOMY IS NOT PATHOLOGY, and that it is but a means to an end. It is only by keeping this in view, that we can hope to avoid such a reproach as the following, by Professor Schultz:—"Physicians open a body, and find hypertrophy of the liver, or hardness of the spleen, and conclude that the patient died from one or other of these affections! But they are blind to the fact, that hundreds pursue their daily avocations, with enlarged livers and hypertrophied spleens, and that women can walk about with ovaria enlarged to the size of a child, till at last, being found in the dead body, it is presumed, that death has ensued in consequence of these enlargements! Shall we never learn from such facts, that diseases do not originate from diseased masses and products, but that these same bodies are the effect of disease, and the token that it has been present? Shall we never learn that the patient died, not from these pathological growths, but from the process of disease which called them into existence? and further, that we are not to direct our attention to the mere residues of disease, and the products of death, but rather to the destructive, or death-process itself." (Introduction, p. 25.)

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[1] Lotze, Allgemeine Pathologie und Therapie, als Mechanische Naturwissenschaft. Leipzig, 1842, p. 9.

[2] Liebig, Organische Chimie in ihrer Anwendung auf Physiologie und Pathologie. Braunschweig, 1842, p. 35.

Essay upon Cretinism and Goitre. *By* Edward Wells, M.D., *late Fellow of the New College, Oxford, and Radcliffe's Travelling Fellow.* 8vo, pp. 69. London: 1845.

The Essay before us discusses, very fully and in a most interesting manner, the History and Peculiarities of Cretinism, a disease, which, though never witnessed in this climate, is one which is at present, we are glad to learn, exciting a deep interest among the scientific men and the philanthropists of Great Britain. We therefore deem it proper, to lay before our readers, a brief account of the contents of this excellent pamphlet.

The subjects are treated in the following order:—I. Origin of the term Cretinism. II. A brief account of the Authors who have written on the disease. III. Description of a Cretin. IV. Proximate Causes of Cretinism. V. Predisposing Cause of Cretinism. VI. Different Forms under which Cretinism shows itself. VII. Diseases to which Cretins are peculiarly liable, the ordinary Duration of their Life, and the manner of their Death. VIII. The Physical and Moral education of the infant cretin.

Of the various *etymologies of the term cretinism* which, from time to time, have been advanced, that which derives it from the French word *Chrétien* (a Christian) meets with Dr Wells' support. He believes, that by an easy provincialism, it might come to be pronounced *crétin*. The victims of this dire disease, it must be remembered, were honoured by their families as holy beings, enjoying the peculiar favour of Heaven. Mr Coxe, in his *Travels in Switzerland*, informs us, that the inhabitants of that country designate them, "*souls of God without sin*," and that many parents prefer these idiot children to those who are unaffected with the disease. M. Esquirol imagines the term may come from the obsolete word crétine, which has the same signification as alluvium.

During the latter part of the sixteenth century, a work on endemic cretinism appeared from the pen of Felix Platu, a professor of medicine in the school of Basle; and during the same century, P. Foreest, a Dutch physician, described several cases he had seen in Italy. Shortly afterwards, the historian Josias Simpler of Zurich gave an account of the cretins of the Valais.

During the latter half of the last century, the subject attracted the attention of the celebrated naturalist Saussure, who was the first to remark, that the disease only occurs in valleys which are below an elevation of 3000 feet above the level of the Mediterranean. About the same period, Zimmerman and Haller gave a short account of the disease; and shortly afterwards, Ramond de Carbonniers wrote upon the appearance of endemic cretinism in the valleys of the Pyrenees. In 1780, Malacarne gave an anatomical description of the bodies of three cretins. Ackerman, who wrote in 1790, supposes the distinguishing features of cretinism to be due to an abnormal condition of the skull.

Foderé, who had abundant opportunities of studying goitre and cretinism, published his admirable work in 1792. He thinks that goitre preceded cretinism, as parents with goitre beget children labouring under some form of cretinism. Dr Autenreith, who published about the same period, thinks that partial malformations of the base of the skull constitute the essential characters of cretinism, but that certain qualities of water and deficient food are predisposing causes.

In 1808, the Saxon Government commissioned Dr Iphofen to investigate the question of cretinism, and with this view he appears to have travelled through nearly every country in which the disease prevails. Cretinism, he says, is an imperfect development of the body, having for its proximate cause a deficiency of the vital power, and for its predisposing, an electrical state of the atmosphere. Goitre, which he considers a separate affection, he supposes to arise from the use of water deficient in carbonic acid.

The most recent, as well as the most complete work on the subject, is that of Dr Rösch of Urach. He considers that scrofula has an obvious and close connection with cretinism, and that it might properly be termed a "universal scrofula."

Those who are desirous of examining more fully into the literature of the subject, will find important details and ample references in the pages of our author, who seems to have devoted no inconsiderable attention and research to this part of the subject.

The following *picture of a cretin* will be read with painful interest. [The sketch of Louis Roth, in the frontispiece, gives an excellent idea of the physical appearance of these poor creatures.]

"In these misshapen beings, it is difficult any longer to distinguish the characteristic features of the Caucasian race. For if the facial angle be taken as the criterion of their place in the scale of the human family, they will be found to approach much nearer to the Ethiopian. Were, however, the development of their intellectual faculties to be regarded as fixing their position among created beings, they would sink to the level of the brute creation. In fact, with regard to mental energy, a cretin may be aptly termed idiotic, although it would not be right in other respects, to confound the two affections of idiotcy and cretinism. Nor is the development of his body superior to that of his mind. His frame is small and unsymmetrical, his gait tottering, and his head hangs heavily on his chest. In such a being, we try in vain to recognise the image of God, in which man was originally created: he is no longer the master of the world, but the most feeble of all living beings.

"I shall endeavour in this place, to give a general description of the appearance which cretins present, reserving for a future page the more minute investigation into the nature of those alterations to which that appearance is due.

"Cretins are always of a small stature, the greatest height they attain ranging from four to five feet. With this diminutive stature, some few individuals display a tolerable symmetry in the form of the whole body. By far the greatest number, however, have a most ungainly figure: they are unproportionably broad and square, and from the want of due proportion between the different parts of the body, their gait is difficult, tottering, and uncertain. On examining successively the different divisions of the body, we shall generally find the following characters to be strongly marked.

"The head is ordinarily too big in proportion to the trunk, seldom normal, and very rarely too small. The forehead is low and retiring: over each orbit, there is almost invariably a shallow depression; the crown of the head is flattened, and the posterior, or occipital portion, broad and large.

"The face of a cretin is broad and short. Its expression is in the highest degree brutish and stupid, sometimes morose and sulky, at other times, wearing a foolish grin. His complexion when young is of a pale-dirty-white colour; as he grows older, however, it acquires a browner hue, though it still retains its earthy appearance. It is from this dusky tinge of the skin, that cretins have been sometimes called maroons. The forehead is frequently covered with hair, and wrinkled. At the point where it is united to the nose there is a deep notch. The nose itself is short, broad, compressed at its origin, and generally turned upwards at the point, while at the same time, the alæ nasi are broad, flattened, and spreading. The eyes are small and weak; the pupils dilated, and generally affected with strabismus; the eyelids protuberant, œdematous, half-closed, converging inwards and downwards towards the nose, and frequently blear eyed. If we examine the bones of the face, we find them large, and very prominent, giving it that peculiar physiognomy, so characteristic of a cretin. The muscles of mastication are voluminous, and at the same time flabby. The mouth is large, generally remaining open, from a want of tonicity to support the under jaw, and constantly drivelling with saliva;—while it discloses teeth, carious, covered with tartar, unequal and irregular. The lips are thick, protuberant, and blueish; the under jaw, broad and prominent. The tongue is thick, and usually too large for the mouth. It is stated by Otto Thieme, that the frœna linguæ are frequently wanting, to which circumstance the difficulty of utterance has been attributed. The ears are large, and stand off from the head. The skin of the whole body is flaccid, and has a dead appearance, sometimes swelled as it were with emphysema, at other times shrivelled, but always feeling dry and cold.

"The colour of the hair, as well as of the iris, varies. The latter is commonly

gray, sometimes bright blue or brown. The hair is for the most part dark, short, and bristly, the eyebrows thin, and the beard generally wanting.

"The cretin's neck is ordinarily short and thick, and frequently disfigured with a large goitre. His thorax is small, narrow, and crooked, his spine curved, and his abdomen developed beyond all proportion with the rest of the body. The arms hang listlessly by the sides, and the knees totter, being bent forwards and inwards. The fingers are very short, and the nails thick and knobby.

"If we now turn our attention to the habits of cretins, we shall find them in this respect as inferior to their fellow-creatures, as in their physical development. The *complete* cretin sleeps, breathes, eats, and drinks—in some instances doing the two last only when fed,—and in these simple processes of vegetative life, consist in a few cases, all the signs of his existence. It is seldom, however, that the degeneration proceeds thus far. They have generally in some degree at least the power of locomotion, but even then, their frailty and weakness are most conspicuous. When they walk, their gait is irregular and slow, oftentimes not under the control of the will. They drag along their legs, which are bent forwards, with an uncertain step, and swagger from side to side, frequently requiring the support of crutches. The sphere of their locomotion is confined within very small limits, the cupboard in which they find their food, the corner of the fireplace, or the wall where they are accustomed to bask in the sun, are all their little world. Even in this small circuit, they know not how to avoid any obstacle which may beset their path; the idea of taking another direction to arrive at their point, is beyond the effort of their intelligence. When seated, they fumble their hands restlessly about, or join them together.

"Totally devoid of any sense of shame, entirely ignorant of any comfort in cleanliness, the *complete cretin*, if left to himself, too often presents a sight revolting to decency. Entirely destitute of any moral feelings, such beings testify neither pleasure nor sorrow. Indifferent to everything that surrounds them, they display no gratification, even at the sight of their own parents, nor do they appear to feel gratitude toward those who afford them the necessaries of life. Indolence, timidity, mistrust, and malice, are but too frequently one or all the consequences of this mental deterioration. Yet are there many who, when kindly treated, display a naturally good disposition, though they may be silly and capricious. Such instances, however, belong to the class of *incomplete cretins*. Others have a lively demeanour, and exactly resemble children, playing with toys, and testifying delight at the sight of coloured objects.

"Neglect and ill-treatment invariably aggravate the state of mental degradation. Under their ill effects, the well-disposed and *incomplete* cretin becomes obstinate and malicious; he forgets those little mechanical works which he has been enabled to acquire, and finally sinks into that state of torpor and entire senselessness, which are the characteristic marks of *complete* cretinism." Pp. 14—18.

The Proximate Cause of the Disease is a question surrounded with manifold difficulties; but we think that Dr Wells' conclusion is at least as well founded as any other which has been advanced, viz.—"*An imperfect development of the individual, dependent upon the condition of the blood, which is deficient both in quality and quantity.*"

Various distinct *Exciting Causes* both of goitre and cretinism have been adduced, from time to time, by authors of respectability; but Dr Wells thinks that, from the intimate connection of the two diseases at the present day, we ought to content ourselves with searching for one exciting cause, as the source of both. The diseases have been attributed to the use of snow water; but it is a well-ascertained fact, that neither of the two affections are found among those who live on the confines of the glaciers, and drink the waters which have their origin from these fountains of snow and ice. They have also been attributed to the use of water containing in solution calcareous matter; and, in support of this view it is asserted, that, on dissection of goitres, concretions of tufstone have been discovered. But even granting, that in every such tumour concretions were discovered, (which is not the case,) it does not follow, that either the depositions, or the tumours, have their origin in calcare-

ous water. The salt of lime, which is generally discovered in these waters, to the extent of three grains in a pint, is the sulphate, whereas, an analysis of these concretions proves them to be composed of the phosphate, one of the materials of bone, and which is frequently deposited in every tissue of the body, especially in advanced life.

Hereditary transmission has been said to be the real exciting cause of cretinism. We give a part of Dr Wells' argument on this point, in his own words.

"In a district where this affection is endemic, it will be easy to bring forward very many instances of such an inheritance, so that those who adopt this theory will find no difficulty in crowding their pages with examples in its favour. But while we allow the transmission of cretinism, we are still as far as ever from its real source; to seek which, we will have to mount the successive steps in the scale of hereditary descent, until we arrive at that point from which each family dates the origin of its degeneration. Then, and not till then, shall we start in search of its actual predisposing cause. No one will doubt that gout and consumption are hereditary diseases; but still, it is not pretended, that they have had their origin in this transmission; otherwise, why does the latter prevail in certain latitudes, and the former in certain classes of society? The correctness of this view was recognized by Foderé, who, when advocating that the dampness of the air was the cause of goitre, but that cretinism was occasioned solely by hereditary transmission, felt himself obliged to refer to the condition of the atmosphere, as being, through goitre, the cause of cretinism also. 'Nous croyons,' he says, 'd'avoir suffisamment prouvé, que cette cause est trés puissante pour produire le goitre; mais il a été dit, que la propagation du crétinisme suppose toujours des parens goitreux: donc, si l'humidité atmosphérique est la cause du goitre, elle, l'est également du crétinisme.'

"But besides the necessity of seeking a primary source in these cases of hereditary transmission, many instances occur, where parents entirely free themselves from all taint of cretinism, and in whose family this disorder has never appeared, have yet had cretinish children. Ackermann brings forward examples of children in the canton Valais, who were cretins in the highest degree, but whose fathers and grandfathers had not suffered from cretinism. Schausberger, who has had opportunities of studying cretinism along the course of the Danube, states, that strangers who settle in districts where it is endemic, although themselves healthy, are liable to beget children the prey of that affection. 'Les étrangers,' says Saussure, 'qui viennent s'établir dans le pays, où cette maladie est endémique, ne la prennent jamais, mais leurs enfants, y sont sujets, comme ceux des indigenes." Iphofen has moreover quoted instances, in which complete cretins have begotten sound and healthy children, who have subsequently grown up into perfect men. Finally, M. Rambuteau, under whose directions the commission for inquiring into the causes of cretinism in the Vallais was conducted, says, 'Des crétins mariés avec des individus bien portant sont engendré des enfans sains et spirituels, tandis que des parens d'une santé parfaite ont produit des crétins: d'où cette conclusion, que le crétinisme ne parâit pas être un vice héréditaire.'" Pp. 31, 32.

Dr Wells thinks that the primary or general cause—that which *always* and *necessarily* exists—is the warm, damp, and stagnant air, which is engendered in narrow Alpine valleys, shut in by lofty mountains, and at a moderate elevation above the level of the sea. This position he proves, we think, most satisfactorily; we are tempted to give an extract on this head, but our limits confine us to the following simple statement:—"In fact, wherever we find cretinism to prevail endemically, there, mountains, narrow valleys, and rivers liable to overflow, form the main features of the landscape. Such a disposition of the earth's surface is most qualified to engender a warm, damp, and stagnant atmosphere. The more lofty the mountains, the more numerous the swamps left by the overflowing river, and the more exposed the valley to a southern aspect, the more inveterate is the disorder. As we ascend the sides of the mountains on the one hand, or follow the river into the wide and open plain on the other, the affection disappears. But it does not disappear suddenly; a regular gradation in the intensity of the disorder may be traced from the bot-

tom of the valleys where it is at its height, into the plain on the one side, and up the mountains on the other." P. 39.

In some cases of cretinism, the degeneration is confined to the body, in others to the mind, and in a third class, both are simultaneously affected; and according to the author, these forms constitute so many modifications of the same affection, the difference consisting chiefly in intensity. The principal forms are,

1. *Goitre*, which may be considered the simplest modification of the disease, and is confined entirely to the body, leaving the mind intact. Goitrous parents frequently beget cretinish children, while the latter in their turn become the parents of an offspring merely affected with goitre—a proof, to the author, that the diseases are closely allied in their nature. We cordially join in the following statement, which we give in Dr Wells' own language, as we happen to know that a different opinion prevails in some quarters, and that attempts at removal, where the tumour was not even "unsightly," have occasioned no small mortification and annoyance to the enterprising operator, and terminated fatally. "When the goitre is at once developed, it generally remains for life. The instances of its removal, either by operation or medicine, are very rare. As long as its increase is confined within moderate limits, although it may be unsightly, yet it occasions but little inconvenience."

2. *Affections of the Bodily Development.*—Having already given the author's graphic description of a cretin, we deem it unnecessary to dilate further on this division. In the figure of Louis Roth, given in the frontispiece, we can trace a painful, but not striking resemblance to humanity.

3. *Affections of the Senses* are not to be confounded with weakness of intellect. The imperfection of a single sense, while the intellect remains intact, may be the sole phenomenon which characterises the disorder; or all the senses may remain intact, and yet the intellect be unable to profit by their operations. *Deaf-and-dumbness* is one of the most common features of cretinism, and some degree of imperfection in the organs of speech is almost universally present. The sense of touch, in most instances, is very obscurely developed: that of sight most frequently remains unimpaired.

4. *Affections of the Mind.*—We cannot pass over the author's description of these affections.

"The range of mental degradation, whether existing by itself or in combination with other forms of cretinism, is very extensive. When carried to the highest degree, as in the complete cretin, it debases man below the level of the brute. Having neither the light of reason nor the guidance of instinct, he is unable to provide for his bodily wants, and would infallibly perish, were it not for the aid of others. His moral feelings are equally depraved with his intellectual powers. Love, affection, and gratitude are to him unknown sentiments.

"It is, however, only in the complete cretin that the mind sinks into such an abyss of intellectual and moral debasement. In by far the most numerous class of cretins, such, for instance, as attract the notice of the tourist in the Alpine valleys and importune his charity, there are still some glimmerings of reason. Such individuals, when kindly treated, are able to render some assistance to their families, in earning their own livelihood. They are generally employed in the fields, in works which require little address, and still less reason. In this class, deaf-and-dumbness is almost invariably a concomitant of the mental imbecility. Or, if there be not entire loss of speech, only inarticulate sounds are uttered.

"Still, it is very interesting to observe, lingering in the clouded minds of these unhappy beings, some faint spark of religion's sacred fire—some intuition of the soul's immortality. In illustration of this, I will quote from the simple narrative of Dr Guggenbuhl, his account of a circumstance, in which originated the idea of founding the establishment on the Abenderg. 'Appelé,' he says, 'un jour à examiner une maladie maligne, que depuis des siècles rabageait de temps en temps les belles vallées des Alpes supérieures, j'eus l'occasion de voir un vieux crétin qui begayait une prière à moitié oubliée devant une image de la Vierge, à Seedorf, canton Uri. Cet aspect émût ma sensibilité en faveur de ces

malheureux, et fixa ma vocation. Un être susceptible de concevoir encore la pensée de Dieu est digne de tout soin, et de tout sacrifice.'" Pp. 54, 55.

Dr Wells informs us that when typhus fever prevails epidemically in a cretinish district, it generally spares the victims of the cretinism, a fact which is probably accounted for by the imperfection, in them, of the functions of vegetable and animal life. The diseases to which they may be said to be particularly subject, are glandular swelling, scrofulous ophthalmia, hernia, epilepsy, diarrhœa, asthma, marasmus, and apoplexy. Indigestion is frequent, in consequence of the stomach being loaded by most unwholesome food. Authors mention a peculiar suicidal form of mania, which prompts the wretched sufferer to attempt self-destruction by throwing himself into the fire.

It does not appear, that the more common forms of this disorder materially shorten life. Atrophy and marasmus senilis are the most common immediate causes of death. Few perish from inflammatory diseases.

To the philanthropist, the concluding chapter, which treats of the *Physical and Moral Education of the Infant Cretin*, will prove the most acceptable and interesting. So far as the adult cretins are concerned, all that can be done is, by kindness and good treatment, to palliate their miserable condition, and render them harmless and tractable, for, as to them, all channels of instruction are closed. But with regard to the infant cretin the case is very different: during the tender years of childhood much can be done to modify or eradicate the affection. Dr Wells states, that if proper steps be adopted, "incalculable are the benefits which experience has proved to result:—bodily and mental vigour take the place of disease and imbecility—the miserable and idiotic mendicant becomes a happy and a useful citizen,—such are the bright changes in store for cretins, towards whom a proper system of education has been adopted.

From what has been stated with reference to the proximate cause of this disorder, it will be sufficiently evident, that the first indication of cure, with those who hold Dr Wells' opinions, must be the removal of children of delicate constitutions from the sphere of its local influence during the early months of life. This step has been carried into practice, and with the most happy and certain results. A charitable physician has founded an asylum for the reception of these poor sufferers. We have much pleasure in quoting the account of this interesting institution, and the appeal to the British public in its behalf.

"To Dr Guggenbuhl belongs the merit, not only of having originated, but of having carried out the idea, of founding an asylum for the education and treatment of infant cretins. Situated in a spot where every natural circumstance combines to render the attempt successful, there is every reason to hope that it will be as fortunate as it is meritorious. Placed at an elevation of above 3,000 feet, its altitude not only guarantees it from the action of such causes as engender cretinism, but also secures it that combination of physical agents which has been found most favourable for eradicating the first seeds of the disorder. All that is required to render the asylum proportionable to the wants which it is intended to meet, are sufficient funds. When we consider how large is the number of those infants, in whom the first symptoms of cretinism are constantly showing themselves, and at the same time learn that the only establishment for their reception will contain but fifty of them at the most, we cannot but feel that among all the philanthropic institutions of the present day, this unfortunate class of our fellow-creatures has been strangely neglected. Let not my countrymen excuse themselves from assisting in this charitable work, under the plea, that they have no concern in the distresses of foreigners. Do they not rush in crowds to admire those magnificent scenes, whose greatest beauty is due to that peculiar conformation of the earth's surface, which gives rise to cretinism? Little do the majority of them think, that what is giving them health and relaxation after the confinement and tedium of business, is to so many others the cause of sickness and misery. Would they but testify their gratitude for the health of body and mind which these scenes renew, by contributing in some degree towards the welfare of their unfortunate inhabitants, their visit would be 'twice blessed, blessing both Him that gives, and Him that takes.'" Pp. 64, 65.

We now take leave of this interesting little work, most cordially recommending it to the attention, alike of the medical philosopher, and the philanthropist.

PART THIRD.

PERISCOPE.

ANATOMY AND PHYSIOLOGY.

THEORY OF MENSTRUATION, AND CORPORA LUTEA. By DR CHARLES RITCHIE, Glasgow. [*Abstract revised by the Author.*]

AT a meeting of the *Medico-Chirurgical Society of Glasgow*, held on the 8th of July, Dr Ritchie read a paper on the Theory of Menstruation and Corpora Lutea. It will be in the remembrance of our readers, that in a series of papers on the Physiology of the Human Ovary, published last year, (*London Medical Gazette*, 1843–4, and MONTHLY JOURNAL for July and October 1844,) this gentleman set forth a copious proof, in his opinion, entirely subversive of the recent hypothesis of the vesicular origin of menstruation, and corrective, also, of the views previously entertained of the precise nature of corpora lutea. In the present essay, which forms part of a succession of papers now in the course of publication, as a second series on the same subject, the writer, without attempting to explain the mechanism of the fact, but assuming it to be—in the present state of our knowledge—an ultimate one, adopts the idea, that the elimination of ova and menstruation are corelative, and, in many respects, independent effects of the ordinary vital action of the ovaries as glands, and that they are as strictly, both of them, the proper and specific functional phenomena of these organs, as the secretion of mucus, and of gastric juice, and the chymification of the food, are of the stomach; the one, the extrusion of ova, being limited to no special period of life, but taking place, under certain modifications, in all; the other being the result of a periodical exaltation of the organic power of the ovaries in the healthy non-gravid and non-lactating adult woman alone; which, from its extension to the nervous, vascular, and absorbing tissues of these glands, occasions the maturation and discharge of their vesicles, and from its further extension to the uterus and vagina, gives rise to the formation of deciduous vessels, and to the menses.

In reference to corpora lutea, again, it will be recollected, that Dr Ritchie, in the paper to which we have alluded, having disposed of the yellow and black blood cysts so often found in the ovaries, limits organised corpora lutea to two species, the white (corpora albida) and cerebriform bodies (corpora cephaloidea), the former having its soft and dense, and the latter its intra and extra-mural varieties, and both of the latter becoming transformed during utero-gestation into fibrous rose-coloured structures, which he terms corpora rubra. In the essay now read, while he repudiated the notion that the excretion of mature

ova from the ovaries is the efficient cause of menstruation, he was of opinion that the vascular orgasm of the sexual organs, in which the menstrual condition and the corresponding state in quadrupeds consists, is the true source of corpora lutea; and, holding this view, he suggested that corpora menstrualia, or corpora periodica, were more appropriate generic terms for these bodies than that in common use, while their modifications or varieties might be very conveniently designated according to their specific physical characters, such as corpora albida, &c., on the principles adopted in his former paper. He divided corpora menstrualia into primitive, secondary, and tertiary. The two species already referred to,—that constituted by the opaque and thickened membranes of the Graafian vesicle, the result of effusion into their cellulated structure, or the bodies he has called corpora albida; and that in which the effusion is larger in quantity, granular, supplied with vessels, and situated in a kind of crypts between the two layers of the follicle, the corpora cephaloidea,—he believed to be the only primary or simple forms of corpora menstrualia which ever appear, and that they are never to be seen except in menstruating or recently menstruating women. His secondary menstrual bodies correspond to what have hitherto been termed true corpora lutea, and are obvious transformations of the primitive species; but, instead of being dependent, as is the common opinion, on some peculiar and specific effect on the unruptured Graafian vesicle of impregnation as an act at the moment of conception, he asserted that their modifications had their point of departure from the uterus, subsequent to the begun development of the fœtus, and were the product simply of the reflex influence of the excited and congested gravid uterus on the enlarged vessels of the recently formed corpora menstrualia. When the primitive body, formed by menstruation, is of that species in which the granular matter is deposited between the membranes,—an intra-mural cerebriform,—he showed that unless it were a more perfect type of development, there is nothing specific in their conformation to distinguish these bodies during the first two-thirds of utero-gestation, from the same bodies in the virgin female; but that in the last three months of pregnancy, they are converted into dense reddish structures, which continue for a short time after delivery. On the contrary, when the primitive body formed by menstruation happens to be a corpus albidum, (the parietal vessels of which are always obliliterated during the menstrual orgasm in which it has its origin,) and when pregnancy occurs while the larger vessels which connect the now inorganic follicle with the surrounding stroma remain patent, he supposed that the secondary or reflected increased circulation of the ovary which gravidity occasions, may give rise to a transudation from such extra-mural vessels, as a secondary deposit or formation, and thus explain the occurrence of those cephaloid granular bodies, the nuclei of which are double-layered opaque membranes. These structures form Dr Ritchie's extra-mural cerebriform bodies, and like the variety in which the granular substance is deposited between the membranes, they are transformed into corpora rubra in the latter months of pregnancy; when, assuming it to be correct that they are really ruptured Graafian vesicles, which have successively been changed into corpora albida by menstruation, into extra-parietal cerebriform bodies by conception, and into red bodies by the continuance of the uterine congestion during the latter months of pregnancy, they must, of course, be regarded as in a certain sense tertiary formations.

Dr Ritchie believes that conception, as a general rule, takes place, in the human subject, within the uterus, and not in the ovaries or tubes, and the chief peculiarities of his views are, that corpora lutea are produced by menstruation, and not by conception, but that these bodies undergo modifications of a secondary kind from pregnancy; which changes, however, are exclusively extra-ovarian in their origin, and do not arise, as previously supposed, from within the coats of the unruptured Graafian vesicles.

[The above is a rapid outline of Dr Ritchie's valuable essay. The opinions announced in it being new, and the subject being one of high importance, we will certainly recur to it, from time to time, as the details become more fully developed by Dr Ritchie, or as new facts and statements are brought forward

by others, tending either to the elucidation or refutation of received opinions. In the mean time, without committing ourselves to anything advanced either by Dr Ritchie or Dr Renaud, we invite attention to the elaborate memoir by the latter gentleman, at p. 589 of the present number.]

PRACTICE OF MEDICINE AND PATHOLOGY.

On the Causes of Icterus. By Dr Decaisne.

Till within these few years, it was generally affirmed, and is, perhaps, still affirmed by some, that Icterus is a mere symptom of some organic alteration, having its seat, either in the hepatic system itself, or in some other organ which re-acts upon the liver. This assertion is based upon an hypothesis very generally admitted, *to wit*, that the yellow colour of the skin is owing, in every case, to the passage of bile into the circulating mass. This hypothesis is examined by M. Decaisne at considerable length. We content ourselves with giving a summary of the conclusions which he announces, after stating the principal sources whence he has drawn the materials for his work, furnished by the researches in chemistry and physiology. From these researches, it appears, that, although icterus frequently owes its origin to a mixture of the bile with the blood, either in consequence of some obstacle to its free circulation, or from the effect of its absorption; yet, it is no less true, that, in a great number of cases, this affection arises from an alteration of certain principles of the blood, whether caused by the predominance of yellow matter, which in its turn may depend on faulty excretion or secretion of the liver, or from the anormal development of matter in certain organs, and from these absorbed into the general circulation. Numerous facts have been collected by the author in support of this important distinction, and hence he is led to separate icterus into two species:—

1*st*, *Bilious Icterus*, or that dependent on lesion of the biliary apparatus, and arising from the presence of certain principles of the bile in the blood.

2*d*, *Idiopathic Icterus*, in which the yellow colour is independent of the bile.

The characters of *Bilious Icterus* are the following:—1*st*, A greasy unctuous state of the skin, which is everywhere of a yellow colour, which may be either stationary or changeable, and passing to a deep green; 2*d*, The presence of certain principles, peculiar to the bile, in the serum and urine, the nature of which is easily determined by their passing from a green to a brown colour on the addition of nitric acid; 3*d*, Discoloration of the feces, and at times biliary diarrhœa.

In *Idiopathic Icterus*, the skin never acquires the intense colour that it does in the former case; it is more of a canary yellow or ochrous hue, is dry, and not oily or unctuous. The urine is clear, pale, and limpid, and does not assume a green colour like the serum on the addition of nitric acid. The feces are not discoloured, as in these cases where the bile plays a part in the colouring of the skin. The yellow colour is always strictly limited to the skin, or to a portion of the body only. The author relates a number of cases of local icterus, where not only no action arising from a mixture of the bile, or its principles, with the blood could be recognised, but where, on the contrary, a modification of the capillary system at some particular point had to be assumed, as determining an anormal secretion, which gave to the pigment that particular colour.

In idiopathic icterus, when the yellow tint is diffused over the whole body, it is attributed to an analogous cause, and to an alteration of the blood, which may be variously modified; thus the author ascribes icterus, consequent in surgical operations, or injuries of the head, to phlebitis, or purulent absorption; and he shows that that of new-born children cannot always be exclusively regarded as connected with an affection of the liver, and depending on the passage of some of the principles of the bile into the blood.

In cases of sudden death occurring in those, apparently in good health, but affected with idiopathic icterus, it is clear that this occurrence cannot always be attributed to the principles of the bile acting on the blood, but rather to a modification of the composition of that fluid itself.

The following are such of the conclusions come to by the author, as are based on his peculiar views:—

1*st*, Icterus does not always depend on lesion of the liver, or biliary apparatus.

2*dly*, Certain kinds of icterus must be attributed to an alteration, or disjunction of the principles of the blood; perhaps even to the separation, or isolation of the yellow matter existing normally in the blood; or to a change of the red colouring matter into yellow.

3*dly*, It is certain, that the fluidity and change in the principles of the blood in some of those affected with icterus, demonstrate, that there is a modification in these principles; and this fluidity and these changes may be regarded as the cause of death in some of those individuals affected with jaundice, or who have become icteric in consequence of a poisonous wound.

4*thly*, In support of the view, that there is a modification in the composition of the blood, we may cite the occurrence of icterus in new-born children, in whom these changes supervene, either under the influence of external agents, or by the modifications which take place in the circulation, consequent on the transition from fœtal to extra-uterine life.

5*thly*, The occurrence of local icterus can no longer be doubtful, but its mode of formation is still unknown.—*Annales et Bulletin de la Société de Médecine de Gand*, as quoted in the *Gazette Médicale* for 17th May 1845.

[In connection with the above paper, we refer to the narrative of a case of cerebral disease, published by Dr Cormack (at p. 267 of the current volume), to which are appended some remarks substantially embracing the principal conclusion of Dr Decaisne; and also, to Dr Cormack's Treatise on the Edinburgh Epidemic Fever of 1843, in which it is contended, that the yellow skin in certain epidemics, and in various diseases, is the direct effect of a poison on the blood, and is the result, only in some cases, of a derangement of the hepatic system.]

Case of Ileus; Portion of Intestine expelled by Stool; Recovery. By Dr Nagel, of Lemberg.

K. I., a servant, had always enjoyed good health, till within the last few years, when he became subject to frequent attacks of colic. On the evening of 12th February 1843, he was seized with violent pain at the lower part of the abdomen, accompanied with shivering, frequent vomiting, and purging. On admission into the hospital, on the morning of the 13th, he was in the following state: head hot and painful; tongue foul; thirst; abdomen swollen, and tender to the touch; skin dry; pulse full, hard, and frequent; vomiting, with watery stools, tinged with blood. (Antiphlogistic treatment.)

The symptoms continued much the same till the 16th, when they diminished in intensity, and the stools were no longer tinged with blood.

On the 19th, there was violent tenesmus, accompanied, on the 23d, with prolapsus of a portion of intestine, which, however, was easily reduced without causing pain.

On the 26th, the patient, free from fever, and altogether in a satisfactory state, passed, by stool, a portion of intestine, 20 inches long, and at some points 2 inches broad; it consisted of a portion of the ilium, the cœcum, appendix vermiformis, the whole of the ascending colon, and a portion of the transverse. The mucous membrane was everted, of a brownish colour, striated with black, especially at the cœcum; it was soft, and easily removed; the peritoneal coat was likewise of a brown colour, and corroded, leaving bare the muscular coat, which also was destroyed at some points; for some days after, there was slight pain at the lower part of the abdomen; but on the 23d March, the patient left

the hospital perfectly cured.—*Oester. Medecinische Wochenschrift*, as quoted in the *Gazette Médicale* for 31st May 1845.

CHEMISTRY AND MATERIA MEDICA.

The Urine in Bright's Disease of the Kidney. By Dr Schlossberger, Assistant Teacher in the Edinburgh University Laboratory.

After it was observed that Albuminous Urine accompanied Bright's disease of the kidneys, the presence of *albumen* in the urine was long regarded as pathognomonic of that affection, and its diagnosis was thought to be complete, when albumen showed itself in the urine on the application of heat, or on the addition of mineral acids. This idea is now abandoned, as the later and more elaborate researches of Simon, Becquerel, Lecanu, Golding Bird, &c., have shown, that the presence of albumen in the urine of disease is so frequent, that its absence is nearly as remarkable as its presence. That Clinical Chemistry, therefore, may preserve in the eyes of the practical physician its well-deserved importance, it seemed imperative, in the present instance, to seek for some new method of diagnosis. It has sought aid, therefore, in the *microscope*, an instrument without which, in these times, this branch of Chemical Science can make but little progress.

F. Vogel, Scherer, Simon, and others, have recently found in the urine of Bright's disease *tortuous thready bodies*, of which Henle appears to give a satisfactory explanation, when he regards them as inflammatory exudations thrown into the smallest tubuli of the cortical substance of the kidneys. In the case of Bright's disease, which I shall afterwards have occasion to describe, I discovered these microscopical bodies in large quantity, and of various sizes; the majority of them were filled with the so-called globules of inflammation; others contained globules identical with those single particles, the aggregation of which appears to form the globules of inflammation; a few also were without either of these. Whether the appearance in the urine of those formations is sufficient for the diagnosis of Bright's disease appears to me very doubtful, since they will most probably be found in every primary or secondary nephritis, in which coagulable lymph has been secreted in the tubuli uriniferi; and this is the more probable, as Lehman and Scherer have already discovered these bodies in the urine of scarlatina.

The existence of albumen, and of those microscopical bodies in the urine, not being sufficient to characterise Bright's disease, we shall now inquire, if in the *relative proportions of the ingredients of the urine*, there cannot be found some peculiarity which, with the above-mentioned tests, may indicate with sufficient certainty the diagnosis of that affection of the kidneys. Scherer, (in his *Chemico-Microscopical Researches*, Hiedelberg, 1843), gives several analyses of the urine of Bright's disease, in all of which the *total amount of solid matter* (notwithstanding the presence of albumen) is very remarkably diminished. In one case, for instance, he obtained from 1000 parts of urine only 12·4, and in another, 11·7 of solid residue, exclusive of the albumen of which in the two cases he got respectively two and three parts per mil., whilst from healthy urine, twice, or even three or five times this quantity are obtained.

If this great deficiency of solid matter was shown to be constant even to a certain extent, it would form, along with the albumen and the microscopical formations, an excellent method of diagnosis, principally, as in other cases of albuminaria, in inflammations, and in exanthematous fevers, the quantity of the solid residue of the urine is generally increased, in consequence of the augmented metamorphosis of the blood. To the great majority of the analyses of Becquerel, (*Séméiotique des Urines*, Paris, 1841, p. 505), the urine in Bright's disease was what he calls "*anímique*," that is, very poor in solid ingredients: in one acute and feverish case, however, he obtained thirty-five parts per mil.

of solid matter. Simon, on the contrary, (*Anthropochimie*, vol. ii., p. 415, and 418), in a few analyses of it, found 33.6 per mil. of solid residue,—a quantity which, after substracting the included albumen, approaches very near to the normal proportion.

These results show that the quantity of solid matter in the urine of Bright's disease varies very much, in some cases being very poor, and in others, again, very rich in solid substances. This diversity may be perfectly explained by various accidental causes and individual circumstances, but principally, by the stage of the disease at which the examination was made, by the chronic or acute character of the disease, and often by the general or constitutional causes which gave rise to it.

But there is another question, viz. whether the *relative proportions between the quantities of the different healthy solid constituents of urine* are not anormal in Bright's disease? Before, however, entering upon the discussion of that question, I shall take the liberty of giving the analysis of such an urine, which not only possesses some interest with regard to the point alluded to, but has also a particular reference to the period of the disease at which it was secreted. The history of this case of Bright's disease was communicated to me by some friends in the Julius' Hospital at Würzburg, but as it is in various points of view very incomplete, I shall only select a few of the principal points to introduce the reader somewhat to our patient; for the analysis of an abnormal secretion, or of a product of disease without the history of the case, appears to me to be in itself without value, to be withdrawn from every source of control, to favour false conclusions, and therefore to be more prejudicial than useful.

The patient was a basket-maker, nineteen years old, of scrofulous diathesis, lax, torpid, and phlegmatic in his constitution. Both of his parents had died of general dropsy, which, in the case of his mother, originated in an organic affection of the liver. The patient himself had never been affected by any important disease, until Easter 1844, when, without any very apparent cause, but most probably after exposure to cold, he was attacked with colic and œdema of the feet; with which a diminution of urine was soon associated, so notable that it surprised the patient himself. About a month afterwards, dropsical swelling of the lower part of the abdomen, slowly but constantly extending to the superior regions, supervened. The urine, which, till the middle of August, had been scanty, became from that period muddy and darker in colour. The medicines administered for the dropsical symptoms had little effect, and the disease appeared to have passed into a chronic state, till, suddenly on an evening in September, alarming symptoms of affection of the brain showed themselves, in the form of maniacal paroxysms, followed by intervals of rest but perfect unconsciousness. After this had continued about twelve hours, they ceased, and the patient, though somewhat exhausted, passed again into his former condition. I had now an opportunity of subjecting the urine secreted *immediately before* these attacks to an elaborate analysis in the laboratory of Professor Scherer. My friend, Dr Renges of Nassau, again analysed the urine which the patient had passed a few hours *after* the paroxysm, and permitted me to publish his results.

1. *The urine before paroxysm.*—This was secreted in the evening. It amounted to about ten ounces, was of a pale yellow colour, faintly acid, and manifestly contained the above-mentioned tortuous bodies, mixed with epithelial fragments. After standing for eight hours, it deposited a considerable sediment of uric acid; its specific gravity was 1011·6. It was evaporated, till, by longer heating in the water-bath, no farther diminution of weight was obtained, and a residue of 53·06 parts per mil. remained. The incineration of that residue gave 9·77 of fixed salts. Coagulated by boiling, (due attention being paid to the necessary precautions with regard to neutralisation,) it yielded 17·9 of albumen. The filtered fluid (after separating by means of nitric acid the urea, which amounted to 7·6,) gave 19·5 of matter soluble in alcohol. That part of the filtrate which was insoluble in alcohol, amounted to 12·7 per mil. and of this 2·6 consisted of uric acid, with a little mucus; so that, of matter insoluble

in alcohol, of phosphates of the alkaline earths, and of sulphates, there remain 10·1 *per mille.*

2. *Urine secreted after the paroxysm.*—The physical properties of this urine were almost the same as the last. The analysis was conducted in the same manner; and the points in which the two analyses differ, and those in which they agree, will be made manifest by the following table:—

	A. *Before paroxysm.*	B. *After paroxysm.*
1. Water,	942·0	931·3
2. Albumen,	17·9	17·0
3. Urea,	7·6	4·5
4. Alcoholic extract with salts,	19.5	20·5
5. Uric acid and mucus,	2·6	5·2
6. Extractive substance and salts insoluble in alcohol,	10·1	20·9

Water	942	Water,	931
Solid residue,	58	Solid residue,	69
	1000		1000

In both analyses, therefore, there was found a considerable quantity of solid residue, even after the subtraction of the albumen. On the other hand, we have here, as in almost all the cases examined by Becquerel, Simon, and others, a *considerably diminished secretion of urea.* In healthy urine, the urea amounts nearly to one-half of the solid residue: a fact which is especially seen in the analyses of Berzelius and Lehman, both of whom found in 60 parts of residue about 30 of urea. Lecanu also, as the average quantity of urea in healthy urine, gives from 27 to 30 parts per mille. (*Journal de Pharmacie*, 1839, tom. xxv. p. 68.) His accounts are, however, of less value, as in his numerous analyses of urine he omitted to determine the total amount of solid residue. In the analysis given above I found the amount of urea to be about one-sixth, and Dr Renges, in the urine after the paroxysm, found it to be one-eleventh of the whole solid residue after subtraction of the albumen. Becquerel likewise, in all the cases of Bright's disease, of which he had examined the urine, had already, with one single exception, found that the urea amounted only to one-third part, or even less, of all the solid constituents.

A *diminution of urea*, therefore, both in its *relative* proportion to *the other solid* constituents of urine, and also in *its absolute amount*, appears pretty constant in the urine of Bright's disease. But it would be rash to draw any definite conclusion merely from these results. It is necessary to gather materials before we build. Whether the source of the diminution of urea in this disease is to be sought for in an original alteration of the blood; in a deranged metamorphosis of matter in the body, qualitatio or quantitatio, or in the degeneration of the secreting organ, and the injury thereby unavoidably given to its secreting power; on all of these points farther research can alone decide.

Though in many cases, at least the metamorphosis of the blood, appear to be unaffected, yet *urea is produced, though secreted* in *deficient quantity and in abnormal situations;* and the blood becoming overcharged with that singular substance, produces a narcotic action upon the nervous system, just in the same manner as the bile acts in some cases of icterus.

The existence of urea in the blood, supervening on granular degeneration of the kidneys, appears from the researches of Babington, Christison, and Simon, no longer doubtful, although some others have failed in detecting it: for one positive account of an authentic observer has, in questions of this sort, more value than ten negative results. Moreover, in the serum exuded so frequently into the ventricles of the brain in cases of Bright's disease, the presence of urea has been repeatedly demonstrated. I myself, in my capacity of assistant physician in the Catherine Hospital at Stuttgart, observed one such case, where the serum in the ventricles of the brain contained urea beyond all doubt. The *quantity of the other solid constituents* of the urine in Bright's disease, seems

much more subject to variation; the quantity of uric acid, was for example, found by some chemists much diminished, whilst in our analysis, its quantity greatly surpasses the average of healthy urine. In the analytical methods for the exact quantitative determination of those constituents, there exist many sources of error, often scarcely avoidable, and therefore further researches are necessary to ascertain these.—*Œsterlen's Jahrbücher für pr. Heilkunde*, for Feb. 1845.

Teeth and Tooth Powders. By Dr Heider.

Among the constituents of a good Tooth Powder, the first in importance is *charcoal*, and especially *lime-tree charcoal*. It forms a very soft and cheap powder, and moreover possesses the valuable property of absorbing colouring substances and destroying the disagreeable odour produced by carious teeth. Small quantities, left in the spaces between the teeth, have a disinfecting action on the particles of food which collect there. It does not, it is true, possess a pleasing colour, and is on that account rejected by many; moreover, particles sometimes accidentally get in between the teeth and gums, and shine through with a bluish colour.

Next to it in importance, is *carbonate of magnesia*, both on account of its absorbent power, and its extreme softness. Its property of neutralising acids deserves particular attention, and from its white colour any pleasing tint may be readily imparted to it by some harmless colouring substance.

The *lapides cancrorum* and *creta alba præparata* resemble the carbonate of magnesia in their chemical behaviour, and in their action. *Ossa sepiæ, conchæ præparatæ, corallia alba et rubra*, are, as carbonate of lime, insoluble, like the two preceding, in the secretions of the mouth; but they are less soft, and should therefore only be employed by grown-up persons, and even then should be mixed with other powders.

Ashes are less to be recommended; they are sometimes even injurious, for in them the alkali is not neutralized by carbonic acid. Soap in which the alkali is combined with fatty acids deserves the preference, and were it not for its disagreeable taste, it would form an excellent ingredient for tooth powders.

Orris-root is a harmless substance, and is generally added to most tooth powders on account of its agreeable odour. Many of the ingredients most frequently mixed with tooth powders, such as alum, cream of tartar, tartaric and critic acids, borax, chloride of lime, &c., are absolutely injurious, and should always be rejected.

The most usual colouring substances employed are carmine, *Florentine lac, sanguis draconis, bolus armeniaca, corallia rubra, coccinella, lignum Santali rubrum;* but only the first two give a beautiful colour in small quantities.

To please the organs of smell and taste, a few grs. of *vanilla*, or a couple of drops of an essential oil, such as *bergamot, neroli, rose oil, oil of cloves, or oil of peppermint*, may be added.

With respect to the mode of application, it is recommended to clean the teeth in the evening, before going to rest, with a *soft* brush and some powder; otherwise the particles of food have time during the night to undergo putrefaction, and when removed in the morning may have already produced considerable injury.

Prof. Carabelli used to prescribe a gray tooth powder in the following form:—

R. Pulv. oss. Sepiæ.
Lapid. cancrorum ana unc. unam et semis;
Corticis cinnamomi,
Iridis Florentinæ,
Carb. lign. tiliæ ana drachm. tres;
Vanillæ grana decem.—Misce.

For a less expensive powder, calcined oyster-shells might be employed instead of *os sepiæ*, and a few drops of bergamot oil instead of vanilla. He objected to red tooth powders, from their rendering it impossible to observe when the gums bleed.

For children and young people, carbonate of magnesia, without any other addition, is most to be recommended, because, on account of its softness, it is not liable to injure the still weak enamel, and at the same time it neutralizes the acid which frequently occurs in the secretions of the mouth in children.—*Œstr. Medicin. Wochenschrift and Chemical Gazette*, for June 15, 1844.

FORENSIC MEDICINE.

A Lady Thief acquitted on the Ground of Temporary Insanity, from Suppression of the Menses.

(*Cumberland Midsummer Sessions. Carlisle, July* 1, 1845.)

Ann Shepherd, aged 34, indicted for stealing a fur boa, on the 7th of April last, the property of Martha Barwise, of Whitehaven.

Mr Greig conducted the prosecution, and urged that a person having the opportunities of knowing better, and abundant means, as was the case with the prisoner, was justly considered as deserving of more severe punishment, when guilty of stealing or other similar offences, than persons less fortunately situated. He then stated the facts of the case, and called witnesses.

Martha Barwise, the landlady of the Lighthouse public house in Whitehaven.—On the 7th April last I had been out walking, and returned home a little past 10 o'clock at night. I placed my bonnet and boa on a chair in the parlour, near the door. Three people came in shortly after. The prisoner at the bar was one. They had some spirits and water in the parlour where my boa and bonnet were. I saw them on the chair about ten minutes before these people came in. The prisoner had a cloak on. They remained about three quarters of an hour. I missed the boa immediately after they left. I sent my servant, Jane Cockbain, after them. She is now laid up in the Infirmary with a broken leg. I saw the prisoner about twenty minutes after they left. She came to the door of my house where I was standing. She asked me "had I found my boa?' I said "no I had not." She said that she considered the people who had gone were very honest: they had had a room from her, and paid her honestly for it. I said the boa was gone, and that it was one of the three who had taken it. On the following day, I got a warrant to search the prisoner's house. She keeps a lodging-house in Duke Street. I went with the officer to her house in the afternoon of the next day. I was present when the boa was found in her house. It was the one I had lost the night before, and I claimed it, before the prisoner, as my property. The prisoner said, "the prisoner had brought the boa." Bell the policeman said, what prisoner? She then said, "oh, the boa that the boy brought." He asked her what boy, and she said, "how do I know what boy?" Mr Bell then asked me if the boa was mine, and I said it was.

Cross-examined by Mr Ramshay.—I saw no attempt on the part of the prisoner to conceal the boa. She brought it immediately to the policeman. I saw her give it to the policeman. I thought it strange, that she brought it out immediately.

Re-examined by Mr Greig.—I did not know the prisoner before. I did not send the police until after the prisoner had been to me. My servant told me where the two persons were going to, when I went to the prisoner's house. She put the policeman and me into one parlour, and went into another and brought the boa out. She tried to shut the door of the room where the boa was, so as to prevent the policeman from following. I can speak positively to the boa as being mine.

William Taylor Lutener.—I am a surgeon. I lodged with my wife a the prisoner's house for about six months. We had an infant child then. I left the prisoner's house on Monday, April 7th, last, and took a passage in a vessel

which was to sail for the Isle of Man that night. My wife and I went to the vessel about half-past ten o'clock. When we got to the vessel, we found it was not ready to go, and we went to the neighbouring public house, that of Mrs Barwise. My wife, the prisoner, and I, went first to the public house. The mate and the captain of the vessel came in afterwards. We were shown into a parlour on the right hand side. We remained there perhaps three quarters of an hour. I saw a boa and bonnet on a chair in the parlour. When the vessel was ready to sail, Mrs Lutener went out to the landlady. The captain and mate left the room after my wife went out. I then went out, and left the prisoner alone in the room with our baby. I was absent about ten minutes. I met the prisoner and my wife coming towards the vessel from the public house. The prisoner had my baby in her arms. She asked my wife to take hold of the child as her apron was untied, and she was going to lose it. The prisoner had a cloak or cape on. My wife took the child, and the prisoner then said she must be going home, as she thought they could do without her. I thought she appeared to be fluttered and a little excited. She subsequently proceeded to the boat at my request. After a time some police officers came on board. Neither my wife nor myself took the boa; we had nothing whatever to do with it.

Cross-examined by Mr Ramshay.—It was about twenty minutes after we left the public house that the prisoner left us. The prisoner did not seem fluttered or excited before we went to the public house. She then seemed to be in a hurry to get home. It was near twelve o'clock. I knew she was excited, by feeling a convulsive twitching of her muscles when she shook hands with me. She was excited and nervous, but not particularly feverish. [The witness was subjected to a long cross-examination upon this point, but no material fact was elicited connected with the case.]

Re-examined.—I saw a good deal of the prisoner during the six weeks I lived in her house, and she appeared quite well. She never complained to me of her health. I had no means of judging of her mind. I did not suppose it was affected in any way. I speak as a medical man.

Cross-examined by Mr Ramshay—I have not "diplomatized." I have been at the London Apothecaries' Hall. I was also at the Newcastle Infirmary, with my father, who is a surgeon there. I assisted my father, and got my education as a surgeon with him.

Thomas Bell.—A police sergeant at Whitehaven.—On the 8th of April I received a search warrant, and went to the prisoner's house between twelve and one o'clock with the prosecutrix. The prisoner opened the door to us, and we turned into the left hand room. I told her I had a warrant to search the house, and to apprehend her for stealing a boa. I said the lady with me was the owner. She said, "oh yes, the boa the prisoner brought." I said, what prisoner? She replied, "not the prisoner, I don't mean the prisoner. I mean the boa the boy brought." I asked her, "what boy?" She said she did not know what boy. I told her I would search her house for it. She then said, "I'll fetch it to you." I told her I must accompany her. She turned to the right hand parlour, and I was following her; but before I could get into the room she returned with the boa. She pulled the door so as to prevent me from getting in sooner. I asked Mrs Barwise if the boa was hers; she said yes. I then told Mrs Barwise she might go, and after that I told the prisoner she must accompany me. She said, what for? I said she was charged with stealing. I don't know what part of the parlour she found the boa in. She repeated twice that she did not know the boy who brought the boa. She said the boy had found it in the street, and asked her if it belonged to the woman who went in the boat. The prisoner said, she told him she would keep it, and if it belonged to that woman she would send for it.

Cross-examined by Mr Ramshay.—The prisoner seemed a little excited when I went to her.

William Taylor Lutener recalled.—Neither myself or my wife ever sent a boy to the prisoner's about the boa, nor do we know anything about it.

Cross-examined by Mr Ramshay.—My wife's boa was of a darkish colour, between dark and light—a kind of brown. It was a long round brown boa.

Re-examined—Most boas are long, round, and brown. My wife has not lost her boa, she had it with her that night, and took it to the Isle of Man. She has it still.

This closed the Case for the Prosecution.

Mr Ramshay then addressed the Jury for the defence, and commented ingeniously upon the evidence. He suggested also, that the prisoner was subject to certain derangements of health, which might explain any little peculiarities either in her manner, or in what she said. In fact, he would, if necessary, call evidence to show that she was from time to time subject to impulses which influenced her to singular and inexplicable acts, by which the Jury could readily understand that she might do many things for which she ought not to be held responsible. If the case required further explanation, to relieve the prisoner and her very respectable friends from the disgrace of the imputation of theft, it would be his duty to call evidence, that for some years the prisoner had laboured under irregularities which occur in the health of females, which the medical evidence would show were the source of great eccentricities of conduct, and delusions, by which he thought it must be concluded that the prisoner's acts could not be deemed felony, as was often the case with drunken men, who might take property under some temporary delusion, and yet all felonious intent might be absent. After enlarging upon the particular evidence he intended to adduce in favour of the prisoner, and in explanation of her conduct, if, indeed, the Jury considered it was such as to require such explanation—he called

Margaret Shepherd.—I am the mother of the prisoner, and I am 76 years of age, and live about six miles from Whitehaven. She had L.100 from her father, but I can give no account of her property. She lived with me and with my son. She stayed with me two or three months. She came in March two years ago, and left in June to go to Whitehaven. I would gladly have had her at my place, and kept her. I could have kept her comfortable. She was a very industrious and useful person; but was sometimes affected with a complaint which made her not quite so happy. It was a stoppage of her courses. It made her act oddly at times, and made her a little wandering. It has been the case since she was eighteen years old. She is now thirty-one years old. She would get well at times, when her oddness would diminish.

Cross-examined by Mr Greig.—The prisoner behaved well in a way, but was not so good to advise, as I could have wished. She went to Whitehaven against my wish. When her complaint was on her, she forgot things a little. I have known other women in the same way. I have another daughter subject to fits from the same causes. My other daughter never stole in consequence of it. Women in that state are forgetful, and will click up a thing: they scarcely know what's what.

Re-examined.—I never practised medicine amongst ladies.

Richard Shepherd.—I live on my own estate in the vale of Thwaytes. My brothers also do the same. Our family is well to do; the prisoner is my sister. She lived with me eight or ten years. She was odd in her manner at certain times. She was flighty and did ridiculous things. It gave me great fear and anxiety. I have known her under delusions at such times, supposing things to have happened, which I believe had not happened. In three or four days she would get better, and go on rightly as before. When she was affected as I have described, she was quite unsettled and in a wandering state. I have seen her do a variety of odd things, but I never saw her steal. She would be quite an altered person for those three or four days, but in general she did her duty like a well conducted woman. I noticed her oddness after the first two years she was with me.

Cross-examined by Mr Greig.—She left me in consequence of this disorder of her mind. I gave up my farm on this account, and wished her to live with my mother. She stayed some little time, and then went to Whitehaven. On some occasions she wandered from home.

By the Chairman.—My sister lives in her own house at Whitehaven. She has property of her own—some more besides the house. She has shares in ships, and is well off. She is not in any want of money. She got her money principally from her father, and from a distant relation.

By Mr Ramshay.—When in those fits she was very talkative, and was not so at other times.

Mary Cowan, wife of the keeper of the House of Correction at Whitehaven. The prisoner was brought there on the 8th April. She was there three days. Her manners were very strange. I have never seen any woman in the Bridewell go on in the same way. She was flighty, rambling, and talkative. From what I observed, I concluded she was not quite right at the time.

Cross-examined by Mr Greig.—I concluded so from her running in and out and about the yard. She said it was spite on the policeman's part that she was brought to the house. She did not appear like any other person. I won't go to the length of saying that she did not know the difference between right and wrong.

The Rev. J. Jenkins.—I am the committing magistrate in this case. I took her examination; she was before me two hours. I noticed her manner and appearance. Her demeanour was very strange, and I ordered her to be detained in Whitehaven until I could communicate with her relations, as I thought she would be bailed; and she was so, three or four days afterwards. Major Wilde was then in Whitehaven, and I asked him to assist me as a brother magistrate. He went, and saw the woman for three or four minutes, and then came and asked me what I was going to do with that woman, as she was mad.

Dr James.—I am a medical man in Carlisle, and my practice has been extensive for many years. Some females are liable to irregularities, differing, in all degrees, from slight to total affection. In the multitude and variety of women, the complaint assumes all shapes and forms, and is different at different times in the same individual. I have known innumerable instances where females have been so afflicted, and their mind, have been affected. It is an every day occurrence. They are at many times not at all conscious of what they are doing. Sometimes they are in a state of great excitement, and might do anything. In some cases, any act of folly they may commit would not surprise me as a medical man. If I had known a patient subject to such an affection, and had seen her in the circumstances described by Mr Jenkins and other witnesses, I should say, they were all symptoms of the mind being affected. After the paroxysm, the ordinary health of the patient returns, and they act with their usual propriety, but are liable to be disturbed again. All forms of hysteria are symptoms of that condition.

Cross-examined by Mr Greig.—Sometimes the parties labour under a great excitement, and sometimes great depression, and sometimes their ideas are considerably perverted. I have known women do very foolish acts then, because they did not know what they were doing. I have never been called in the case of a person who stole when so affected; but I have seen many who have taken up articles without even knowing what they had in their hands. These are the more severe cases; but such frequently occur.

This closed the defence.

Mr Greig then replied on the part of the Prosecution. He urged, that there could be no doubt the prisoner had taken the property, she was accused of stealing; and noticed the evidence which went to establish that, dwelling particularly upon the fact, that when the boa was in the custody of the prisoner, although aware that the prosecutrix had lost hers, she took no means to restore it. He also urged, that there was no evidence whatever that the prisoner was in the precise state assumed by the defence, when the offence was committed.

The Chairman considered this an important point, and recalled the witness Mary Cowan, who said that she did not know that the prisoner was affected as supposed, while in the House of Correction. Dr James, in reply to the learned Chairman, said, if the prisoner was suffering under the complaint alluded to, there could be no appearances by which a casual observer could know it.

Mr Greig resumed—and said, that up to the time when the boa was found at

the prisoner's house there was nothing seen of that excitement, &c., upon which so much stress was laid. He urged also that the Jury should not allow the prisoner's position in society, or her wealth, to weigh against the evidence of her guilt, nor ought they to be unduly influenced by mere humanity, which ought not to interfere with justice.

The learned Chairman then addressed the Jury, and said that although the case had occupied a considerable time, he thought not more time had been devotedto it than was necessary. The line of defence was twofold; first it was denied that she took the boa; and then that if she took it, she did not know right from wrong at the time. Now they had to consider the application of the evidence to both these points, taking care, with respect to the latter, that they had to deal only with the state of the prisoner's mind at the time the alleged offence was committed. He then carefully went over the entire evidence, commenting upon it as he proceeded. Supposing the Jury were satisfied from the evidence that the prisoner had taken the boa, if they thought she was in a state of unconsciousness, or aberration of mind, arising from her affliction, they must acquit her; if, on the other hand, they thought, she knew what she was about, though at times she might be subject to aberrations, it would be their duty to return a verdict of guilty. If any doubt existed on their minds, they must, of course, give the prisoner the full benefit of it.

The Jury then requested leave to retire, and were absent from the Court about twenty minutes. On their return, they recorded a verdict of NOT GUILTY, and the prisoner was discharged.

[At p. 903 of the Vol. for 1843, there is a paper by Dr Cormack, on "*Transient Insanity, chiefly in reference to Forensic Medicine*," in which are detailed several cases of temporary derangement from suppression of the catamenia.]

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 551 of July Number.)

SESSION XXIV.

ELEVENTH MEETING.—*Wednesday, 8th July* 1845.—Dr GAIRDNER, P., in the Chair.

CARBONACEOUS INFILTRATION INTO THE PULMONARY TISSUES OF COAL-MINERS. BY DR MAKELLAR.—[The paper was an abstract of a series of essays to be published in this Journal.]

Reference was made, in particular, to the East Lothian coal-miners. The carbonaceous disease described, was stated to be caused by the inhalation of substances floating in the atmosphere of the coal-pit, such as the products of the combustion of gunpowder, the smoke from the miner's lamp, and the other foreign

matters with which the air of the mines is heavily charged, in consequence of their defective ventilation. In the mines in which gunpowder is used, the disease is most severe in its character, and most rapid in destroying the pulmonary tissue. The carbon in some cases is expectorated in considerable quantity for some time previous to death; in others, it is retained, and accumulates to a great extent in the lungs.

As the disease advances, the action of the heart becomes feeble; and the appearance of the blood indicates a carbonaceous admixture. The carbonaceous deposit seems to supersede or supplant the formation of other morbid bodies in the substance of the lungs—such as tubercle; for in individuals belonging to families in which there exists an undoubted phthisical diathesis, tubercle is never found on dissection.

The morbid appearances seen in the pulmonary structure, as results of inhaled carbon, may be divided into classes, corresponding to three stages of the malady. In the *first*, there is general irritation of the mucous lining of the air-passages; the carbon is absorbed into the interlobular cellular substance, and glandular system, thereby materially impeding the necessary change upon the blood. In the *second*, the irritative process, the result of this foreign matter in the lungs has proceeded so far as to produce a variety of small cysts containing fluid and semi-fluid carbon,[1] following the course of the bronchial ramifications. In the *third*, the ulcerative process has advanced to such an extent, as to destroy extensively the cellular tissue, and produce excavation of one or more lobes.

The general results from carbonaceous infiltration, besides disorganization of the pulmonary structure, are extensive venous congestion, and effusion into the serous cavities. Attenuation and dilatation of the heart, and usually enlargement and softening of the liver and spleen.

Professor Christison called attention to the new and important fact, of the carbonaceous matter being found in the circulating mass. He attached great importance to Dr Makellar's researches.

Professor Allen Thomson remarked, that the presence of this carbonaceous matter in the blood, by no means proved, that it was formed in, or from the blood.

Dr Hughes Bennett said, that the antagonism of this carbonaceous disease to tubercle, was a fact of great interest and importance, especially in connection with two other recent observations; viz. 1st, That the depositions of carbon in the lungs of old people, (which French pathologists describe,) are not found associated with tubercle; and, 2d, That under the supposed cicatrices of pulmonary tubercular cavities, a layer of carbonaceous matter is commonly found.

[Dr Makellar's paper called forth some interesting observations from *The President*, *Professor Simpson*, and others, which unfortunately we have no room to report.]

Cases of Congenital Fissure in the Neck. By Professor Allen Thomson.—Dr Allen Thomson read a notice of three cases of congenital fissure in the side of the neck, of the same nature as those described by Dr Aschersohn of Berlin, in his Inaugural Dissertation, published in 1832.

Dr Thomson began his communication with an account of the general results of Aschersohn's observations on eleven cases, and an explanation of the manner in which that author, and after him, embryologists in general, have referred the congenital fissures in question, to the abnormal patency of one or more of the branchial clefts discovered in the vertebrated embryo by Rathk, in 1825.

Dr Thomson then detailed the history of the three cases which had come to his knowledge in Edinburgh. Of these cases, one had been observed by himself, five years ago, along with Professor Syme and Dr Thomas Fairbairn; a second was now under treatment for the affection by Dr Gairdner, President of the Society; and a third, had been casually noticed by Dr James Duncan.

[1] By this is meant carbon in a solid and fluid state.

The first of these cases now referred to is that of a young man of seventeen, now residing in Edinburgh, presenting a marked example of the fissure on the right side of the neck. The external aperture of the fissure is situated in the skin covering the anterior border of the sterno-mastoid muscle, and about midway between the jaw and clavicle. A common surgeon's probe may be passed about half an inch into the fissure; but a thinner probe runs, without more than the slightest possible force being applied, to the distance of nearly two inches, in a direction upwards below the skin, platysma myoides, and fascia, towards the pharynx or great cornu of the hyoid bone.

Four years ago, when the case was first carefully observed, the probe was passed very easily to the depth of two and a-half inches in the same direction. Upon one occasion, when the probe was passed the length now stated, the young man thought he felt matter pass into the throat; and upon all occasions, when the probe is passed to a considerable depth, a tickling cough follows—circumstances which, as in some of Aschersohn's cases, lead to the view, that the fissure is connected with the pharynx. It may also be mentioned, that on pinching up the skin near the external aperture with the fingers, a cord-like prolongation is felt in the direction in which the probe passes; and that when the lad swallows, the skin immediately surrounding the external aperture is drawn up and slightly puckered.

The external aperture is frequently closed by a scale or scab; but at other times, a glairy fluid exudes from it, and a long gelatinous thread may occasionally be pressed out of the fissure.

The existence of the aperture was noticed by the parents of this lad a few weeks after his birth, and in the interval of four years between the separate observations made by Dr Thomson, no material change in its appearance had taken place.

The subject of Dr Gairdner's observation was a man of twenty-six years of age, in whom the external aperture occupied the place which, according to Aschersohn's results, appears to be its most common seat, viz. the space between the sternal and the clavicular attachments of the sterno-mastoid muscle, and about half an inch above the clavicle. In most other respects, the appearances were the same as in the case previously noticed. The probe had not been passed farther than an inch and a-half in an upward direction. With a view to the eradication of this malformation, Dr Gairdner, upon the 25th of May last, laid open the sinus by dividing the skin, platysma, and fascia in front of it, and has since adopted the usual measures for healing the opening from the bottom. The wound was not entirely closed at the time when the case was communicated to the Society; but it was so much so, as to lead to the confident hope of the operation being ultimately attended with complete success.

In neither of the preceding cases, did hereditary tendency to the occurrence of the imperfection appear; for none of the relations had been known to be similarly affected.

Dr Duncan's case, observed some years ago, was in some respects similar to the preceding. It appeared chiefly interesting, as being the only case hitherto observed, in which, when the fissure was confined to one side of the neck, it had its seat on the left side. In three of Aschersohn's cases, both sides of the neck were affected; in the remaining eight, as in the two other cases described in the present communication, the fissure was situated on the right side; but in Dr Duncan's case, as before stated, it was on the left.

The author made this communication to the Society, in the hope that additional information might be obtained with regard to the peculiar lateral cervical sinuses described, by the collection of cases observed by other members of the Society, whose attention had been thus directed to an imperfection which might otherwise have passed unnoticed by them.

VALEDICTORY ADDRESS BY THE PRESIDENT.—*Dr Gairdner* then addressed the Society nearly as follows:—"Gentlemen,—We have now brought to a conclusion the 24th Session of this Society; and, before taking leave of you for the season, I think myself entitled, and, indeed, called upon, to congratulate

you on the realization of those anticipations of continued zeal, interest, and success, on the part of our Society, which I ventured to indulge at the beginning of the session. I am entitled to do so, not only on the strength of my own appreciation of the value of the matter which has passed in review before us, but also on the still stronger ground, that I have observed many indications of your coincidence in the judgment which I have formed; a coincidence unequivocally manifested, by the regularity and fulness of your attendance, so creditable alike to your own professional zeal, and to the efforts of those to whom we have been indebted for so much useful and valuable information.

"We derive, Gentlemen, many advantages from the mere fact of being associated together for a common object. We are thus brought to know each other better, to become acquainted with each other's habits of thinking, and peculiar fields of research, of experience, and of experiment; and hence to know to what quarter we can turn for sympathy, for information, and for assistance, in any particular investigation in which we may happen to be engaged. We have just had an example of what I mean. The case I had the honour to lay before you this evening would have been of little value, had I been in an isolated position. Struck with its peculiarity, I mentioned it to some of my fellow-members here. I immediately heard of two other similar cases. I suspected its connection with development, and went, as a matter of course, to Dr Allen Thomson, who put Aschersohn's cases into my hands, and who has this evening presented our Society with an interesting digest of the whole subject, as instructive, I presume, to most of my fellow-members, as it certainly has been to me. We had another instance equally in point. You must all remember the melancholy interest with which we listened to Dr Hunter's details, given at our first meeting, of the fatal illness of one of my most valued predecessors in the chair of this Society, the late Dr Abercrombie. I believe his case was then regarded, not indeed as an unprecedented, but certainly as an unusual one; and yet, at that very meeting, other parallel cases were produced, (one of them by Mr Goodsir, which had happened about the same time;) and, later in the session, a third case was minutely and accurately described by my friend Dr Maclagan, and has since been published by him.

"I rejoice, Gentlemen, to observe, that men of large professional experience, and authors of new methods of applying the resources of science to their legitimate object, the alleviation and cure of the ills of suffering humanity, regard this Society as the most appropriate channel for conveying their original thoughts to the profession and to the public. At our first meeting, Professor Simpson laid before us an original method of treating the embarrassing case of *placenta prævia*, a method of which he is the undoubted author, and which is calculated to save many valuable lives. Some time afterwards, we had an explanation from Professor Syme of an improvement in a very different department; I mean his method of amputating at the knee, instead of at a point many inches higher up. This also appears to be a great practical improvement. Professor Christison's valuable and practical suggestions, as to a certain class of distressing cardiac disorders, may be appropriately placed under the same category.

"I regret that we have had so few *reports of public medical institutions;* but we received from Dr M'Kinnon a report of the proceedings of the Lunatic Asylum, which is valuable.

"Even *individual* cases have sometimes been invested, by the zeal and talent of their reporters, with as much interest as whole groups. Need I refer you for a proof of this to Dr Bennett's case of poisoning with hemlock, which has enrolled that gentleman, not merely among the successful cultivators of the science of toxicology, but among those who have contributed to the illustration of history and biography; the biography, too, of one of the greatest philosophers and moralists of ancient Greece.

"We have also had ingenious methods of investigating and of discriminating diseases, which have been explained to us by Dr Warden, Dr Spittal, and others; besides a variety of other communications, which I hope their authors will not suppose to be under-valued, because they are not specifically mention-

ed, since it is altogether impossible for me, in the course of this occasional address, even to *attempt* a digest of so great a variety of communications. I am quite sure that I shall carry the Society along with me, when I express generally our sense of obligation to all the authors of the communications of this session, for the great instruction and interest which they have afforded us.

"I had hoped, Gentlemen, to have been able to congratulate you on justice having been done to the medical profession by our Legislators;—but alas! this morning's post informed us, that we are not to expect it during the present session. I believe that if our friends in the southern part of the kingdom would consider the question of medical reform with more reference to the interests of the profession and of the public, and with less reference to the interests of individuals, and of particular medical incorporations, the difficulties of legislating would be easily removed.

"And now, Gentlemen, it only remains that I should declare this Society adjourned till the second Wednesday in November next; and that I should beg of all of you, both of those who have favoured us with communications, and of those who have not, to remember, that it is not in the power of your official members, not even of our excellent Secretaries, able and zealous as they undoubtedly are, to perpetuate that interest which has characterized our proceedings, unless aided by the zeal and co-operation of those among us, who may have new and valuable matter to communicate."

BOOKS RECEIVED.

N.B. Exchange Journals are not acknowledged, as the constant repetition of their names would occupy too much space.

(Continued from page 552 of the July Number.)

88. Practical Treatise on Inflammation, Ulceration, and Induration of the Neck of the Uterus: With Remarks on the value of Leucorrhœa and Prolapsus Uteri, as Symptoms of Uterine Disease. By James Henry Bennet, M.D., &c. &c. 12mo. Pp. 212. London: 1845.

In our next publication we will give an account of this admirable Treatise,—the latest and the best work upon the subject of which it treats.

89. Irish Watering Places. By Alexander Knox, M.D. 12mo. Pp. 332. Dublin: 1845.

90. Organic Alterations of the Heart; and particularly on the Beneficial Employment of Iron in such cases. By S. Scott Alison, M.D. 16mo. Pp. 62. London: 1845.

91. Lectures on Surgery. By the late Abraham Colles, for 34 years Professor of Surgery in the Royal College of Surgeons of Ireland. 2 vols. 12mo. Dublin: 1845.

92. Abstract of the Medical Sciences. Edited by W. H. Ranking, M.D. Cantab. Vol. I. Pp. 391. 8vo. London: 1845.

93. Retrospect of Practical Medicine and Surgery. Edited by W. Braithwaite. 12mo. Vol. XI. Pp. 335. London: 1845.

94. Annali di Chimica, applicata alla Medicina. Compilati dal Dottore Giovanni Polli. Vol. I. No. 1. Luglio (July) 1845. Milano: 1845.

95. La Syphilis; ou Vues Nouvelles sur la Nature et la Traitement de la Maladie Vénérienne, par F. S. Ratier. 8vo. Pp. 68. Paris: 1845.

VARIETIES.

Dr Fleming on Aconite.—We insert the following letter from Dr Fleming, containing a very satisfactory explanation of the matter to which it refers.

"13 Minto Street, July 4, 1845.

"Sir,—The remarks which appear in the review of my Thesis on the Aconitum Napellus, in your July Number—to the purport that the opportunities I have

had of observing the symptoms of the fourth degree of its operation could not have been presented without undue boldness in employing the remedy—satisfy me, that I erred, in omitting to specify in what manner the cases which led to these observations, occurred.

"Four cases constitute the whole extent of my experience of the fourth degree of operation;—in one of these, the symptoms supervened prematurely, a circumstance to be attributed to the peculiar idiosyncrasy of the patient, in another, they were induced by an error on the part of the attendant; and in the remaining two, were brought on by the patients themselves, who, in their anxiety to obtain complete relief from severe pain, took more of the medicine than was prescribed. The bad symptoms in all these cases were removed by the appropriate remedies, and the patients recovered. The taking of the fourth dose of five minims, two hours after the third, specified in the paragraph on the fourth degree of operation, occurred in two only of those cases; but in giving a general account of the physiological effects of the drug, I considered myself warranted in making use of this fact, as the symptoms were illustrated by the two other cases. The accidental occurrence of these cases afforded me an opportunity of describing the advanced action of the remedy, of which I availed myself. Though they occasioned me much painful anxiety, I have shown that they were owing to causes over which I had no control, and I may with confidence assert, that the caution exercised in the use of the aconite, could not have been surpassed, as Professors Christison, Miller, and Henderson, Drs Duncan, Paterson, Bennett, Douglas, and all who had an opportunity of observing its employment, will testify.

"The train of symptoms characterising the action of the drug when carried to a fatal extent, is derived from the published cases of poisoning, and is introduced to complete the view of its physiological effects, and to show forcibly its peculiar depressing agency on the heart. I am, Sir, your most obedient servant,

"ALEXANDER FLEMING."

[As Dr F. has issued an *expurgated edition* of his work, since our review appeared, we think it necessary, in justice to ourselves, to print in parallel columns, the passages referring to the "*Fourth Degree of Operation.*"

As Received for Review.	As Expurgated.
"*Fourth Degree of Operation.*—On the administration of a fourth dose of five minims, two hours after the third, the symptoms assume a more alarming character. The countenance becomes pale and sunken; froth issues from the mouth, and the prostration increases. Some thus affected have stated, that they felt as if dying from excessive loss of blood. Consciousness usually remains; or there may be slight wandering delirium, as occurs also after profuse hemorrhage. The voice is whispering, or is altogether lost. The pulse becomes still smaller, weaker, and more irregular; and the breathing more imperfect. The surface is colder than before, and is covered with a clammy sweat.	"*Fourth Degree of Operation.*—If the administration be carried further, the symptoms assume a more alarming character. The countenance becomes pale and sunken; froth issues from the mouth, and the prostration increases. Two patients thus affected stated, that they felt as if dying from excessive loss of blood. Consciousness usually remains; or there may be slight wandering delirium, as occurs also after profuse hemorrhage. The voice is whispering, or is altogether lost. The pulse becomes still smaller, weaker, and more irregular; and the breathing more imperfect. The surface is colder than before, and is covered with a clammy sweat.[1]
"I have seen patients recover from this state under the administration of proper remedies.	"When the action of the drug is
"When the action of the drug is carried to a fatal extent, the individual becomes entirely blind, deaf, and	

[1] "The effects detailed in the above paragraph are derived from four cases in which they occurred accidentally. In one of these the symptoms supervened prematurely, a circumstance to be attributed to the peculiar idiosyncrasy of the patient; in another

As Received for Review.	As Expurgated.
speechless. He either retains his consciousness to the last, or is affected with slight wandering delirium; the pupils are dilated; general muscular tremors, or even slight convulsions, supervene; the pulse becomes imperceptible, both at the wrist and heart; the temperature of the surface sinks still lower than before; and at length, after a few hurried gasps, death by *syncope* takes place.	carried to a fatal extent, the individual becomes entirely blind, deaf, and speechless. He either retains his consciousness to the last, or is affected with slight wandering delirium; the pupils are dilated; general muscular tremors, or even slight convulsions, supervene; the pulse becomes imperceptible, both at the wrist and heart; the temperature of the surface sinks still lower than before; and at length, after a few hurried gasps, death by *syncope* takes place."
"It must be borne in mind, that these symptoms do not, on all occasions, occur in the uniform manner in which they have now been described. On the other hand, some of them may be entirely absent; while others, not yet mentioned, but to which I shall afterwards allude, may appear." Pp. 22–26.	they were induced by an error on the part of the attendant (see Appendix, Part II., Case IV., report of December 21); and in the remaining two were brought on by the patients themselves, who, in their anxiety to obtain complete relief from severe pain, took more of the medicine than was prescribed (see Appendix, Part III, Case VIII.) The bad symptoms in all these cases were removed by appropriate remedies, and the patients recovered. The train of symptoms characterizing the action of the drug when carried to a fatal extent, is derived from the published cases of poisoning, and is introduced to complete the view of its physiological effects, and to show forcibly its peculiar depressing agency on the heart."

Religious Excitement in America—Millerism and Insanity.—By "Millerism" is understood, the religious doctrine of the immediate destruction of the world. "Before us," says the *American Journal of Insanity*, "is a paper from the interior of this state (Utica), published in November, which states,—'Our exchange papers are filled with the most appalling accounts of the Miller delusion. We hear of suicides, insanity, and every species of folly.' Another Boston paper makes a similar remark, and says,—'One lady and one gentleman, belonging to this city, were committed to the insane hospital last week, from the influence of this horrible delusion. The man cut his throat, but was stopped before he severed the large blood-vessels. Another man cut his throat from the same cause, producing instant death.' Like accounts we find in Connecticut, Philadelphia, Baltimore, and other papers. To this we might add, that we have seen a considerable number of individuals who became deranged from attending upon the preaching of this doctrine, most of whom have recovered; though we have some now under our care, whom we consider incurable, and have admitted *two* deplorable cases within a few days. . . . . We have no hesitation in saying, that, in our opinion, the prevalence of the yellow fever, or of the cholera, has never proved so great a calamity to this country as will the doctrine alluded to. What can be done to prevent the recurrence of these *epidemic monomanias?* 1*st*, Do not go to hear any new, absurd, and exciting doctrine taught; and keep away from them all those over whom you have influence. This need not, and should not hinder you from obtaining a knowledge of all the new truths and new doctrines; for such are in this country immediately published. Read about them if you wish, but do not go to *see* and *hear*—to swell the throng of gazers and listeners, for, as has been said, such things spread chiefly by *contagion* and *imitation*. You would keep yourselves and would keep others under your control from hear-

ing lectures of an irreligious character, and directly intended to inculcate vice, or to injure the health. Take the same course as regards new, absurd, and exciting doctrines. Read about them, as we have said, if you choose, but do not run after them, nor make them the subject of conversation. Thousands of printed tracts upon Millerism, scattered through the country, would have done no harm, if there had been no preaching of the doctrine—*no nightly meetings and collecting in crowds to hear and see.* In connection with this subject, we beg very respectfully to suggest to all religious denominations, the propriety of lessening the number and frequency of protracted religious meetings, and especially of those held in the evening and night. We are confident, that although some good results from them, that very much evil does also. They prepare many to entertain the delusions referred to, by creating an excitement bordering on disease, and unfitting the mind to contemplate important subjects calmly. They also seriously impair the health of the clergy, and unfit them for other duties. We ourselves may be more sensitive upon this subject than others, as we live in the midst of many who, a few years since, were among the most worthy and pious of the land, and who are now, and probably will be, while they live, tenants of a lunatic asylum.—Abridged from the *American Journal of Insanity* for January 1845.

Statistics of Lunacy.—A return has just been presented to Parliament of the number of pauper lunatics, including under that term, "all persons who are idiots, lunatic, or of unsound mind," with elaborate details of their distribution throughout the kingdom, cost of maintenance, &c. It appears that the number of pauper lunatics in England, amounted, at the close of the past year, to 14,153:—7271 were lunatic paupers, of whom 3181 were males, 4090 were females,—and 6882 were idiots, of whom 3271 were males, and 3611 were females. In England 3574 lunatics and idiots were maintained in county lunatic asylums; 2559 in licensed houses; 4080 in union workhouses, and 3940 with their friends, or elsewhere. The ages were as follows,—6 under 5 years; 40 under 10 years; 818 under 20; 2828 under 30; 3117 under 40; 3046 under 50; 2272 under 60; 1430 under 70; and 596 upwards of 70; 3544 were dangerous; and 2290 were of nasty and filthy habits. The average cost of their maintenance was 7s. 3½d. per week in county asylums; 8s. 8¾d. per week in licensed houses; and 2s. 7d. per week elsewhere.

In Wales, there were 379 lunatics, and 820 idiots, of whom 37 are maintained in lunatic asylums; 55 in licensed houses; 91 in union workhouses; and 1016 by their friends. The average cost of their maintenance is 7s. 9½d. in county lunatic asylums; 8s. 4¾d. in licensed houses, and 2s. 2¾d. elsewhere.

Thus the total of the 589 unions in England and Wales, gives,—7650 lunatics, and 7072 idiots, together 15,352, of whom 3611 are maintained in county lunatic asylums, 2614 in licensed houses; 4171 in union workhouses; and 4956 with their friends.—*Athenæum*, July 5, 1845.

Appointment of a Surgeon to the Hotel Dieu, in room of M. Breschet.—M. Jobert (de Lamballe) was offered the vacant post, but refused it, in consequence of the Council of Hospitals having reduced the number of beds in the service, interdicted the public use of the speculum, and prohibited every kind of clinical teaching. These are the circumstances in which M. Jobert has declined, in exchange for his hospital appointment at St Louis, to become the successor of M. Breschet, at the Hotel Dieu. M. H. Boyer has accepted the vacant surgeoncy.

The German Book-Fairs.—The Booksellers of Southern Germany, (assembled on the 16th June, at Stuttgardt, as had been appointed,) decided that, (in place of Leipsig,) Augsburg, Frankfort, and Stuttgardt, shall be the three towns in which they will for the future effect their exchanges, and regulate their accounts.

Institution of a General Italian Book-Fair at Florence.—The Grand

Duke of Tuscany has authorized the creation, in Florence, of a central establishment for the publishers and booksellers of Italy, similar to that which so long existed, for the German states, at Leipsig. This establishment is to be called the *Emporio Librario;* and in connection with it, there is to be an annual fair, which printers, paper-makers, lithographers, as well as booksellers, are invited to attend.

University Tests.—On the 9th July, the House of Commons, by a majority of 116 to 108, rejected Mr Rutherfurd's Bill for the abolition of Scotch University Tests. A ministerial majority of 8 is so trifling, that it does not deserve the name of triumph, and therefore there is the utmost encouragement to Mr Rutherfurd and his friends to "try again."

British Association.—We are by no means disposed to join in the crusade against this body which is headed by the *Times*, nevertheless we cannot help remarking, that the Medical Section is woefully devoid of interest. When Messrs Braithwaite and Ranking can make such a respectable appearance with their half-yearly abstracts, certainly an annual deliverance by the Association should be more prolific in facts and principles. The explanation of this is probably to be found in the circumstance, that the Association originated with the promoters of Physical Science, and that Medical, and some other Sections were added simply as make-weights.

Medical Reform.—Sir James Graham has, in the meantime, withdrawn his Bill.

Medical Registration in Jamaica.—Our Colonial brethren have preceded the Parent Country in this important matter, as will be seen from the following official notice in a Jamaica paper of June last:—

"*College of Surgeons, &c. May* 1, 1845.

"*6th Victoria, Chap.* 33, *Clause* 11.—And for the better information of the public as to the parties who are, or shall hereafter become duly qualified to act and practise as aforesaid, and for the detection of ignorant pretenders, be it further enacted, That the said College shall cause to be published, half yearly, in the official newspapers of this island, an accurate alphabetical list of all practitioners, so duly registered as aforesaid."

"In obedience to the above clause, I publish this list of duly qualified practitioners in this island. H. Langley Porter, *Registrar.*"

[Then follows an alphabetical list of all the qualified practitioners in Jamaica.]

An Itinerant Dentist lately took post at a fashionable watering-place; but finding that his brushes and nostrums did not *take*, and that he was visited by more creditors than customers, he last week thought proper to *brush* off, after sticking the following *placard* in his window: "Dr M—— is *gon* to London to *atend* the *Roial* family."—*Bell's Messenger.*

[This gentleman may find a resting-place at Windsor, but had he gone to Jamaica, he would have found it *too hot for him*, in more ways than one.]

TO CORRESPONDENTS.

Of the Original Communications which have been received, the following will be inserted.

1. Professor Syme.—Surgical Cases and Observations. No. xxvii.
2. Professor Reid.—Case of Monstrosity by Inclusion. [With Plates.]
3. Mr Ford.—Gunshot Wound of the Brain:—Recovery.
4. Dr Makellar.—Carbonaceous Disease of Miners. [A Series of Papers.]
5. Dr Alexander King.—Compound Fracture of the Skull: Separation of the Coronal Suture: Hemorrhage from the Arteria Meningea Media: Extensive Exfoliation of both Tables: Recovery. [With Plates.]
6. Dr Andrew Anderson.—The Post-Febrile Ophthalmia. [With Plates.]

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23	2	0	4	44	3	13	2	23	1	17	1	44	3	7	3
24	2	1	5	45	3	15	5	24	1	18	1	45	3	9	5
25	2	2	7	46	3	17	11	25	1	19	2	46	3	11	10
26	2	3	10	47	4	0	7	26	2	0	3	47	3	14	2
27	2	5	1	48	4	3	7	27	2	1	5	48	3	16	11
28	2	6	4	49	4	6	11	28	2	2	8	49	3	19	11
29	2	7	7	50	4	10	7	29	2	3	10	50	4	3	4
30	2	8	10	51	4	14	7	30	2	4	11	51	4	7	1
31	2	10	1	52	4	18	11	31	2	6	1	52	4	11	0
32	2	11	4	53	5	3	6	32	2	7	3	53	4	15	2
33	2	12	9	54	5	8	5	33	2	8	6	54	4	19	9
34	2	14	3	55	5	13	8	34	2	9	11	55	5	4	7
35	2	15	10	56	5	19	4	35	2	11	4	56	5	9	9
36	2	17	6	57	6	5	5	36	2	12	11	57	5	15	4
37	2	19	3	58	6	11	10	37	2	14	6	58	6	1	3
38	3	1	1	59	6	18	4	38	2	16	2	59	6	7	3
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(To be continued.)

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Black Phthisis, or Ulceration induced by Carbonaceous Accumulation in the Lungs of Coal-Miners.* *By* ARCHIBALD MAKELLAR, M.D., *Fellow of the Royal College of Physicians of Edinburgh.*

AMONG the many diseases incident to the coal-miner, none come oftener under medical treatment, than affections of the respiratory and circulating organs. While the collier is subject—during his short but laborious life—to the other diseases which afflict the labouring classes in this country, such as inflammations, fevers, acute rheumatism, and the various eruptive diseases, he, at last, unavoidably, falls a victim to lesions within the cavity of the chest, arising from the nature of his employment. In the present communication, it is proposed to lay before the profession a series of remarks, which I have been enabled to put together, with a view to elucidate the cause and progress of that very peculiar pulmonary disease, incident to coal-miners, which I shall denominate BLACK PHTHISIS, or Ulceration induced by Carbonaceous Accumulation in the Lungs.

The rise and progress of the malady may be thus sketched: A robust young man, engaged as a miner, after being for a short time so occupied, becomes affected with cough, inky expectoration, rapidly decreasing pulse, and general exhaustion. In the course of a few years, he sinks under the disease; and, on examination of the chest after death, the lungs are found excavated, and several of the cavities filled with a solid or fluid carbonaceous matter.

During the last ten years, my attention has been much directed, in the course of my professional labours in the neighbourhood of the coal-mining district of Haddingtonshire, to the above pheno-

mena in the pathology of the lungs, which have not hitherto been brought so fully before the profession, as their importance demands. The subject presents a very interesting field of investigation to the physiologist and pathologist.

When we consider the difficulties which the medical man has to encounter, in prosecuting his researches in morbid anatomy in a mining district, it is sufficiently explained why the peculiarly diseased structures in the body of the coal-miner should have been left so long uninvestigated.

Not many years ago, the obstacles in the way of *post mortem* examinations among colliers were insurmountable, and consequently, till lately, few medical men could obtain permission to examine, after death, the morbid appearances within the chest of a collier. With the rapid advance in the general improvement which has been going on, the collier's position in society has become greatly elevated; and his deeply-rooted superstitious feelings have been, to a great extent, dissipated. Let us hope that the schoolmaster will find his way into every collier's dwelling, enlightening his too long uncultivated mind; and that the foolish prejudices shall cease, which have been hitherto the barriers to *post-mortem* examinations in his community.

The only medical writers, as far as I am aware, who have brought this subject before the notice of the profession, are, Dr J. C. GREGORY, in the report of a case of peculiar black infiltration of the whole lungs, resembling "Melanosis," (*Edinburgh Medical and Surgical Journal*, No. cix., October 1831); Dr CARSEWELL, in an article on "Spurious Melanosis," (*Cyclopædia of Practical Medicine*, Vol. iii); Dr MARSHALL, in a paper in *The Lancet* for 1836, entitled "Cases of Spurious Melanosis of the Lungs;" Dr WILLIAM THOMSON, now Professor of Medicine in the University of Glasgow, in two able essays (*Medico-Chirurgical Transactions of London*, Vols. xx. and xxi.), wherein he gives a number of very interesting cases, collected from various coal districts of Scotland, illustrating different forms of the disease; Dr PEARSON, in the *Philosophical Trans.* for 1813, on the "Inhalation of Carbon into the Pulmonary Air Cells;" and in a paper, by Dr GRAHAM, in vol. xlii. of the *Edinburgh Medical and Surgical Journal.*

Recently, professional and other writers have directed attention to the influence of various occupations in the production of diseases of the chest. The pernicious employment of the needle-pointers, razor and knife-grinders of Sheffield, and other manufacturing towns in England,[1] have not only engaged the attention of the public at large, but science has been at work to ascertain, with as much accuracy as possible, the relative effects of the different avocations, on the constitutions of those occupied in these destructive employments. Researches of this nature tend much to the

[1] Vide an admirable series of papers on this subject in the volume of this Journal for 1843, by Dr Calvert Holland.

well-being of society, as they make us acquainted with the maladies and sufferings peculiar to certain classes of our fellow-men; and point out, also, the causes of their early decay, and premature death. The coal-miners—those in whose behalf I would now solicit the intervention of science—are most valuable in their place, and their exhausting labours promote, in no small degree, our domestic comforts.

Some of the diseases of colliers have in past time been very much overlooked by the medical inquirer. There has been, within the last few years, a very searching investigation as to the employment of women and children in coal-mines; and by the laudable exertions of Lord Ashley—a nobleman whose name shall ever be honoured among miners, and by all who have the true interests of that community at heart—an Act of the Legislature has been passed, declaring it unlawful for any owner of any mine or colliery whatever, to allow any female to work therein; and also enacting, that no boy under the age of ten years can be employed in mines. It is to be regretted, however, that his Lordship did not embody in his measure, provisions enforcing the free ventilation of mines under government inspection; for nothing would tend more to improve the health of those employed in them.

In the course of the inquiry, which formed the prelude and basis of Lord Ashley's Act, much valuable information regarding the diseases of colliers was elicited; and no one can peruse the voluminous parliamentary report pertaining to these investigations, without being struck with the very general prevalence of affections of the chest among miners. It is to be hoped, that the interesting facts in regard to disease, which this recent most necessary investigation has laid open, will be the means of directing the attention of scientific men to the subject, with a view to obviate, as far as human efforts can, the evils which have been exposed. It may at first appear difficult, to point out the means of removing effectually the causes of the pulmonary carbonaceous disease of miners, but, be the difficulties what they may, humanity encourages us to make the attempt.

In the *first place*, let us endeavour to ascertain the cause, and *secondly*, to suggest means for the mitigation or prevention of this scourge.

My present remarks do not refer to coal-miners in general, but to a district in Scotland, in the Lothians, east of the river Forth, where the labour is hard, and where its severity is in many cases increased by a want of proper attention to the economy of mining operations. These operations, as at present carried on, are extremely unwholesome, and productive of diseases which have a manifest tendency to shorten life. I draw the materials of my description from what I saw in a part of that district referred to, where the various cases, hereafter to be adduced, came under my medical treatment, and where I had the privilege of examining the morbid appearances after death.

The locality[1] in which my observations were made, is that part of the Lothians, extending from south to north, stretching from the foot of the Lammermoors towards the sea-coast, including the coal-works of Preston-Hall, Huntlaw, Pencaitland, Tranent, and Blind-wells. In this range of the coal-formation, the seam of coal is variable, but generally exceedingly thin, varying in thickness from eighteen inches, to three or four feet. It is with difficulty that mining operations can be prosecuted, from the extremely limited space in which the men have to move, and from the deficient ventilation. It appears, after thorough investigation, that in the majority of the coal mines above mentioned, ventilation is very much neglected, and that this neglect is partly caused, by the immunity of these mines from carburetted hydrogen gas, which exempts them from the danger of explosion. But though there be no explosive gas, there is generated, to a certain extent, in the more remote recesses of the pit, carbonic acid and other gases, producing the most injurious effects—impairing the constitution by slow degrees, and along with the more direct cause (the smoke from the lamp, candle, and the product of the combustion of gun-powder,) making progressive inroads on the health of the unfortunate miner. And how, I ask, can it be otherwise, in such circumstances? So long as it is possible for him to go on—so long as there is air enough to support the combustion of the lamp or candle, the labourer must proceed with his toil. I say, from there being no fire-damp, less attention is paid to ventilation, and it is a common occurrence with colliers in these localities, to be obliged to leave their work, from there not being a sufficiency of oxygen to keep their lights burning, and support respiration; and this temporary cessation of labour under such circumstances is regarded as a hardship by some proprietors, while the bodily sufferings of the miner, shut up and necessitated to labour in this situation, are little considered.

After labouring beyond a given time in those confined situations, there is a much freer action of the respiratory apparatus, the oxygen is considerably exhausted, and to make up for this deficiency, the volume of air inspired, (impure though it be,) is much greater. Every now and then, there is a disposition to draw a deep breath, followed by a peculiar and gradual decrease of strength. Therefore, in these forcible expansions of the chest, it is to be expected that a considerable quantity of the floating carbon will be conveyed to the cellular tissue.

The atmosphere of the coal mine at length becomes so vitiated, by the removal of the oxygen in breathing, and the substitution of carbonic acid, that the respiration becomes gradually more difficult, and the exhausted labourer has ultimately to retire from the pit, as there is no other mode by which the noxious air can be removed—owing

[1] About two miles east from Edinburgh.

to the under-ground apartments being so small—than by gradually allowing purer air to accumulate. The miner is thus enabled to return to his employment.

It is about thirty years since miners in this district adopted the use of coarse linseed oil, instead of whale oil, to burn in their lamps; and it is very generally known, that the smoke from the former is immensely greater than that from the latter, and many old miners date the greater prevalence of black spit to the introduction of the *linseed* oil. This change took place entirely on the score of economy. Any one can conceive how hurtful to the delicate tissues of the respiratory organs, must be an atmosphere thickened by such a sooty exhalation.

It is now known, that this disease originates in two principal causes, viz., *First*, The inhalation of lamp smoke with the carbonic acid gas[1] generated in the pit, and that expired from the lungs; *Second*, Carbon, and the carburetted gases which float in the heated air after the ever-recurring explosions of gunpowder, which the occurrence of trap dykes renders necessary.

To those acquainted with mining operations, an explanation of the coal and stone hewing process is unnecessary; but, for the sake of the uninitiated, I may be allowed to state, in explanation, that, previous to any coal hewing, it is needful to remove various strata of stone, to open up road-ways, and break down obstructing dykes, by the aid of gunpowder. All coal-miners are engaged exclusively with one or other kind of labour; that is, either in removing stone or coal: and the peculiar disease to which each class is liable, varies considerably, according to the employment. For instance, the disease is more severe and more rapid in those who work in the stone, than in those engaged in what is strictly coal-mining, while, at the same time, both ultimately perish in consequence of it. The fact of the disease being more acute in stone-miners, I am disposed to attribute to the carbon and other products of the combustion of gunpowder, being more irritating and more destructive to the lungs. A very striking instance of this occurred, a few years ago, at the colliery of the Messrs Cadell of Tranent. A very extensive coal level was carried through their coal field, where a great number of young, vigorous men were employed at stone-mining, or blasting, as it is called, every one of whom died before reaching the age of thirty-five years. They used gunpowder in considerable quantity:—and all expectorated carbon.

It was long a very general belief with medical writers, that the various forms of discoloration in the pulmonary tissue was induced by some peculiar change taking place in the economy or function of secretion, independently of any direct influence from without. They were, therefore, usually supposed to belong to the class of melano-

[1] Generated from the decay of vegetable and other substances in the *formerly wrought* pits, which communicate with those at present in use.

tic formations, from presenting, as their distinguishing feature, a greater or less degree of blackness. But, by recent investigations, it has been proved, that the infiltrated carbon found in the bodies of coal-miners is not the result of any original disease, or change taking place within the system,[1] but is carbon, which has been conveyed into the minute pulmonary ramifications, in various forms, during respiration; and which, while lodged in these tissues, produces irritation, terminating in chronic ulcerative action of the parenchymatous substance. The very minute bronchial ramifications first become impacted with carbon, and consequently impervious to air; by gradual accumulation, this impacted mass assumes a rather consistent form, mechanically compressing and obliterating the air-cells, irritating the surrounding substance, and promoting the progressive extension of the morbid action, till the whole lobe is infiltrated with carbonaceous matter, which, sooner or later, ends in ulceration and general disorganisation of the part. It is evident, in tracing the disease through its various stages, up to that of disorganisation, that wherever there is an impacted mass in any part of the pulmonary structure, this is followed, sooner or later, by softening, from its irritating effects upon the tissues by which it is surrounded; and as this softening process advances, the innumerable sets of vessels [2] composing the dense network of capillaries are broken down, extending the cyst, so that, as the cysts enlarge, they gradually approximate to each other, till all at last become merged in one great cavity.

The majority of colliers, soon after they engage in their mining operations, become afflicted with bronchial disease to a greater or less extent.

Those who are hereditarily predisposed to pulmonary irritation, are, it is my decided belief, more liable to "black phthisis" than others; but I cannot suppose it possible, that any constitution, however robust and sound, could resist the morbid effects resulting from carbon deposited in the lungs. Tubercular phthisis is not at all prevalent in any collier community with which I am acquainted, only occasional cases occurring, and that amongst females. It is my impression, that a phthisical person, engaged in the operations of a coal-pit, similar to those in Haddingtonshire, would come under the influence of the carbonaceous disease, instead of the true phthisis; for, in all the *post-mortem* examinations which I have conducted, connected with this pulmonary affection, I have never found tubercular deposit:—while other members of the same family, having a like predisposition, and who never entered a coal-pit, have died of phthisis. Can carbon inhaled destroy a tubercular formation? I never knew or heard of a case of black spit in a

[1] It is proved, from the difference in the chemical character possessed by the melanotic matter, as compared with the matter found in the lungs of miners.

[2] It will be observed, that, though the small blood vessels are destroyed, no hemorrhage takes place, owing to the formation of a carbonaceous plug.

female collier, and this is accounted for by the circumstance, that the women, when permitted to labour, previous to the late prohibitory enactment, were only occupied as carriers; and from their movements towards the pit shaft, in transporting the coals, were enabled to inhale at intervals a purer atmosphere. The boys also, who were employed as carriers to the pit shaft, continued to labour with like impunity, from their occasional change of situation; but the miner, lying on his side in a confined, smoky recess, under ground, gasping for breath, proceeding with his exhausting labour, cannot fail, in his deep inspirations, to draw in the deleterious vapour, to the most minute ramifications of the pulmonary structure, and, as he daily repeats his employment, so does he daily add to the accumulation of that foreign matter which shall ultimately disorganize the respiratory apparatus. In the first stage of the affection, there is an incessant dry cough, particularly at night, and all the prominent symptoms of bronchitis are present. Indeed, from the time a man becomes a coal-digger, and inhales this noxious air,[1] there is ever after a manifest irritation in the lining membrane of the respiratory passages, which is apparent before carbon in any quantity can be supposed to be lodged in the lungs. The mucous membrane of the air passages, by its continually pouring out a viscid fluid, has the power of removing any foreign matter that may be lodged in them. Now, should this membrane, owing to previous irritation, lose to a certain degree this secretory power, then the foreign body adheres to it, and is retained, and this, I think, constitutes the preparatory stage of black deposit. In tracing the progress of the disease, it is my belief, that immediately after the carbon is established in the air-cells, the absorbents become actively engaged, and the glandular structure soon partakes of the foreign substance. One of the peculiar features, as we shall find, when we come to describe cases, is, that the secretory function is ever after so changed in its character, that the gland which formerly secreted mucus, to lubricate the passages, now performs the same service with muco-carbon, and continues to do so during the remainder of the patient's life—even, as I have often seen, long after he has desisted from the occupation of a coal-miner. In fact, it constitutes a striking peculiarity of this disease, that when the carbon is once conveyed into the cellular tissue of the lung, that organ commences the formation of carbon, thus increasing the amount originally deposited, as was strikingly exemplified in the case of Duncan and others, to be afterwards detailed. Duncan had not for fifteen years been engaged in mining operations, nor was there any possibility of his having inhaled more carbon: yet in him it was found to have increased to the greatest possible extent, leaving but a small portion of useful lung.

[1] The air of the coal-pit is so charged with carbon as to prevent the collier from distinguishing his neighbour when at work.

I have been long impressed with the belief, that the carbon is contained in considerable quantity in the blood, particularly in the blood of those far advanced in the disease. This impression arises, not only from its dark and inky appearance, but from its sluggish flow, and non-stimulating effects on the heart and general system; and when we examine the morbid condition of the pulmonary structure,—ascertain the presence of carbon in the glandular system and minute lymphatic vessels of the lungs, and consider the relation existing between them and the circulating fluid, we cannot suppose it possible, that such a mass of foreign matter should be lodged in their parenchymatous substance without imparting a portion to the blood. I was never more struck with this, than in the case of Duncan, where the blood was more like thick brownish ink than vital fluid.

No one who has witnessed the economy of these pits, can doubt the inhalation, to a great degree, of lamp and gunpowder smoke into the pulmonary tissue. What may be its chemical action there, is a question for us to attend to as we proceed. If it be considered an established fact, that carbon is inhaled, possessing all the chemical qualities of that substance found floating in the air of the coal-mine, and either expectorated from the lungs during life, or retained in those organs till after death, we cannot but conclude, that the black matter is the result of an external cause, and that that cause is the sooty matter.

Another question arises here, in connection with this phenomenon, viz.—Does the carbon increase in the pulmonary tissues after the collier has relinquished the occupation of a miner, and when there can be no further inhalation, and if so, whence comes this increase? It must be admitted, judging from several of the cases which follow, that it does considerably augment. From this remarkable fact, does it not appear probable, that when carbon is once lodged in the pulmonary structure by inhalation, there is created by it a disposing affinity for the carbon in the blood, by which there is caused an increase in the deposit of carbon, without any more being inhaled.

Appearances on Dissection. In classifying the morbid appearances observed in the pulmonary structure, I arrange them according to divisions corresponding to three stages of the disease. *First*, Where there exists extensive irritation of the mucous lining of the air passages; and the carbon being inhaled, is absorbed into the interlobular cellular substance, and minute glandular system, thereby impeding the necessary change upon the blood. *Secondly*, Where the irritative process, the result of this foreign matter in the lungs, has proceeded so far, as to produce a variety of small cysts, containing fluid and semi-fluid carbonaceous matter, following the course of the bronchial ramifications. *Thirdly*, Where the ulcerative process has advanced to such an extent, as to destroy the cellular texture, and produce extensive excavation of one or more lobes.

Stethoscopic Signs.—In the early stages, the sounds indicate a swollen state of the air passages, and vary in character according to the part examined. The whistling and chirping sounds are loud and distinct in the large and small bronchial ramifications, and both from the absence of expectoration and the presence of the pulmonary bruit, the highly irritated state of the mucous linings is apparent. The affection ultimately assumes a chronic form, and continues present in the respirable portions of the organ during life. As the carbonaceous impaction advances, the sounds become exceedingly dull over the whole thoracic region, and in many of the cases no sound whatever can be distinguished. Where the lungs are cavernous, it is very easy to discover pectoriloquy, from the contrast to the general dulness, and when pleuritic and pericardial effusion advance much, it is difficult to ascertain the cardiac action.

Such is a short account of the *Cause*, *Progress*, and *Morbid Appearances* of this deadly malady, as they came under my notice.

(*To be continued.*)

ARTICLE II.—*Gunshot Wound of the Brain, attended with Extensive Cranial Fracture, and followed by Complete Recovery. Reported by* C. G. E. FORD, M.R.C.S. Eng., *Madras Medical Establishment.*

KAMPTEE, NEAR NAGPORE,
14th May 1845.

DEAR SIR,—If you consider the accompanying case worthy of a place in your Journal, you will oblige me by giving it insertion.

As a stranger to you, (though not to your Journal), I have deemed it advisable to have the report authenticated by the counter-signature of the superintending surgeon of this the Nagpore Subsidiary Force.

I am induced to transmit this case to you, in consequence of perusing in the Periscope of your March No. (p. 236,) one somewhat similar, which terminated in death.—I am, Dear Sir, yours, &c.

C. G. E. FORD,
7th Madras Native Infantry.

TO DR CORMACK.

On the morning of the 31st January 1845, Sillar Khan, a lad about 15 years of age, was brought into my hospital with a gun-shot wound of the head, which he had received, while pursuing the customary occupation of idle boys, of collecting the balls, during the practice of a regiment, for subsequent disposal in the bazaars. A chance shot must have struck him, when he was under partial cover of a stone or hillock, as he was not discovered till some time after the regiment (the 46th Madras Native Infantry,) had retired.

He was quite insensible, and breathing stertorously upon admission. Examination, after shaving the head, disclosed the following amount of injury.

The ball had entered the head on a level with, and three-fourths of an inch anterior to, the summit of the right ear, and had made its escape through the left os frontis, an inch and a quarter above the centre of the eye-brow, fracturing the skull irregularly between both wounds, in such a manner as to implicate and depress the right orbit. The right os frontis, over its sinus, had likewise met with a comminuted fracture, which gave to the touch the crepitating sensation of a broken egg-shell. In addition to this varied fracture, one proceeded upwards and backwards, from the spot where the ball entered to the lambdoidal suture. The vertex was raised and inclined over to the left side, to such an extent as to enable the finger to be laid in the sulcus formed by the gaping margins of the fracture, especially between one wound and the other, and considerable pressure failed to approximate appreciably the edges. The right eye was completely closed by tumefaction, and the sinking of the orbit; strabismus had occurred in the other, and its pupil was but a speck. From the wound in the forehead, blood was trickling, and much had evidently escaped from it, as large clots were still adherent to his face. No spiculæ of bone were detected in either wound. The hemorrhage was soon checked, by a cold application, which was continued, to the head; the orbit was raised to its proper position; and saline and camphor mixture administered.

The following is a brief abstract of the most prominent symptoms, and treatment of this extraordinary case:—

On the 3d February, he became in a slight degree sensible, and answered, Yes, (in Hindostanee,) to all and every question. The brain had gradually protruded since admission, through the outlet at the forehead, and on this date a mass larger than a walnut, and about half an ounce in weight, consisting of cortical and medullary substance was excised. Pulse 130, and of moderate strength. The saline mixture and lotion were continued, and a purgative draught exhibited.

On the evening of the 5th, delirium, incoherent speech, and other symptoms of cerebral inflammation supervened. The head was freely leeched; and the sero-sanguinolent contents of a large swelling at the posterior extremity of the fracture, contiguous to the occiput, were evacuated by free incision. The whole scalp was puffy. Pulse 160, and distinctly computable. The purgative draught was repeated and the mixture and lotion continued.

6th. The leeches were again applied.

7th. Some thin semi-transparent pus was seen oozing through the three wounds, including the scarification at the back of the head. Pulse 140, and soft. Medicines continued.

8*th*. Discharge more copious and purulent, and pieces of brain unaccompanied by any fragments of bone, were passed from the wounds caused by the bullet. Delirium had increased. Was directed to take half a grain of the bi-sulphate of quinine, three times a-day; and mutton broth frequently. The wounds were kept open by dry lint.

9*th*. Stools and urine were passed involuntarily. The delirium continued unabated. The discharge from the wounds was free and healthy.

10*th*. A puncture was made in the right upper palpebra, near the inner canthus, and exit afforded to about two ounces of thick fœtid pus. He remained insensible, and the excretions were voided without his will.

12*th*. The pus, somewhat fœtid, has been plentifully poured forth from the four openings, which have been kept open by pledgets of lint. The puncture made the day before yesterday in the palpebra, is found to communicate now with the wound in the forehead. Pulse feeble, and 130. To have his broth as before, and a grain of the bi-sulphate of quinine thrice a-day.

14*th*. He appeared to know what was said to him, and the left eye, which he now opened and directed to any object, seemed to possess perfect vision. Made signs for the bed-pan. Discharge free. Delirium at night. The treatment continued.

16*th*. He evidenced by his acts more perception and intelligence. Discharge healthy and profuse. He took two grains of bi-sulphate of quinine every six hours. Allowed as much animal food as he wished.

17*th*. Much confusion, anxiety, and irritability of manner existed to-day. Frequent paroxysms of incoherence during the night. Pulse 130, and small. A quarter of a grain of acetate of morphia was ordered to be taken with each dose of the quinine.

19*th*. Was calmer. Discharge diminished. No incoherency. Treatment continued.

21*st*. Discharge had gradually decreased. Laboured under symptoms of fatuity, and replied only "yes," to any question. Had compresses applied to the right os frontis and to the occiput, (the incision near which had almost healed,) and adhesive plaster to the ball wounds. Continued the quinine and morphia. The bowels remained free, without the use of any purgative.

28*th*. Since last date, the wound at the occiput has healed; and the discharge is now slight from the other three. Constitutional irritability has been much allayed. Slept and ate well. Was quite idiotic, and constantly attempted to remove his bandages. Opened his right eye, of which the vision has been uninjured. The motor power only of the left side has been partially lost. The mouth is drawn to the right. He cannot project his tongue: and his endeavours to do so caused laughter. The doses of morphia and quinine were augmented respectively, to half a grain, and three grains. Nitrate of

potash, and nitric acid, were likewise prescribed. Compresses, &c. were applied as before.

March 5. Some dawning of intellect was perceptible to-day, and a word of rebuke had a temporary effect in checking his propensity to remove his bandages and destroy his bed-clothes. Vision was perfect, and the axes of both eyes were simultaneously directed to any object. Has been disposed to speak. Urine passed in abundance. The exposed surface of the brain at the frontal wound has numerous small vessels traversing it, and it has put on the character of mucous membrane, yet without any attachment to the surrounding integuments of the forehead. Pulse large, and 100.

10*th*. Has decidedly improved in his mental capabilities, and has recognised his friends, including an officer who came to see him, and whose name he distinctly pronounced. When any question has been put to him with a caution, he has replied sensibly. The pieces of the right os frontis have consolidated with one exception, and an angle of a small fragment projects under the integuments at the upper part of the forehead. Contrary to my expectation, no pus has ever been discharged by the nose. The space between the edges of the fracture, posterior to where the ball entered, has closed, but in no way between that and the wound of the forehead. The discharge has been trivial. Two small squamæ of bone have been removed from the wound near the ear. Has walked a little with assistance. No improvement in the use of his left upper and lower extremities; they are employed at will, but feebly; their sensibility, however, has never been involved. The new membrane, remarked as covering the surface of exposed brain, has thrown out exuberant granulations, which have been with difficulty kept down to the level of the frontal teguments, by the liberal application of lunar caustic. Ordered to take, three times a-day, an ounce of compound infusion of gentian, half a grain of morphia, and four drops of muriatic acid. Compresses continued.

To render this report as concise as possible, I conceive I may, without any disadvantage to it, conclude by recording, that from this last date, a progressive amendment to complete and perfect restoration of the patient's health of mind and body took place, under a continuance of the treatment above noted. On the 3d of April he was discharged from the hospital. The vertex is permanently settled to the left side. The skull has not united for about two inches over the temple, where, and at the cicatrix of the frontal wound, the pulsations of the brain can be conspicuously observed. A ridge exists where union has occurred in other parts of the fracture. The wound in front of the ear has closed with ossific matter. The right eye cannot be opened quite so widely as the left, and there exists some thickening of the orbital margin of the frontal bone. The right commissure of the mouth is but slightly retracted. His sleep is refreshing, his appetite hearty, his secretions normal, and he is fleshy and strong. His memory is tenacious, and he can

summon to it any bygone event to which he has been a party, with accuracy and promptitude; and he is subject to no hallucination.—*In short, his senses of hearing, smell, taste, sight, and touch, have not been one tittle deteriorated by the violent and extensive nature of the injury to the brain.*

He presents himself occasionally for examination; and he has just now paid me a visit. I cannot learn that his disposition has been in the least altered by his accident and consequent loss of cerebral substance. He is good tempered and cheerful, which his friends say he has been from infancy.

As far as my reading allow me to pronounce it such, I believe the foregoing case to be without a parallel:—but an Indian marching library is usually limited.

Numerous physiological, phrenological, and other remarks forcibly suggest themselves, but as I doubt not they may as readily do so to your readers, I will not trespass further on your space.

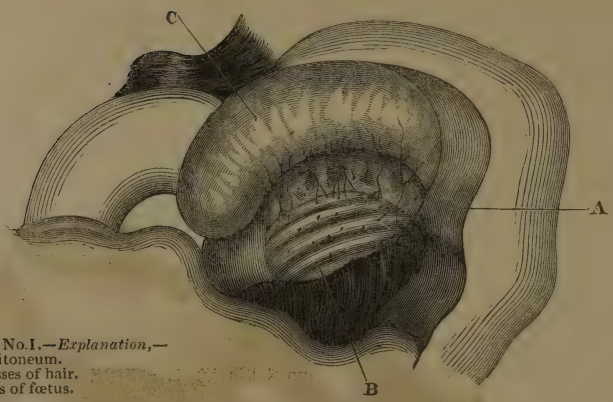
C. G. E. FORD.

Having frequently seen the above-named patient while under treatment, I can bear testimony to the accuracy of the case.

J. MORTON,
Superintending Surgeon, Native Subsidiary Force.

ARTICLE III.—*Case of Monstrosity by Inclusion, occurring in a Bitch. By* JOHN REID, M.D. Edin., *Fellow of the Royal College of Physicians of Edinburgh, and Chandos Professor of Anatomy and Medicine in the University of St Andrews.*

DURING the winter of 1835–36, while assisting my friend Dr Cormack in performing some experiments on the physiological effects of creasote, at the Edinburgh Police Office, upon some dogs doomed to destruction by municipal authority, the size of the abdomen of a small terrier bitch attracted my attention; and immediately after its death, I opened it, in the expectation of finding it pregnant. The animal was in excellent condition, and, previous to the exhibition of the poison, in perfect health. On opening the abdomen, we found the uterus empty, of the natural size, and in every respect normal, the ovaries were plump and smooth on the surface; while two fœtuses, and masses of hair were lying among, and on the surface of the abdominal viscera. I removed the whole of these viscera, and carried them home for more careful examination. The engraving, considerably reduced from the original drawing, gives an accurate representation of the removed parts; the appearance of which is still farther exhibited by the two woodcuts. The previous history of the animal could not be ascertained.



WOOD-CUT No.I.—*Explanation*,—
A, Peritoneum.
B, Masses of hair.
C, Ribs of fœtus.

One fœtus, the lower of the two, was lying obliquely in front of the small intestines, the left side of its body being directed towards the spine of the *including* animal, its abdomen downwards in the direction of the pelvis, and a little to the left side, the back upwards and to the right, the head looked upwards and to the left side, and was placed immediately below the larger curvature of the stomach, while its posterior extremity projected downwards, and to the right side. Two folds of the small intestines were closely tied to its dorsal, and other two to its anterior surface, and a portion of the large omentum, loaded with adipose tissue, adhered to its head. Its length from the point of the nose to the posterior part of the body, was $7\frac{2}{3}$ inches, the length of the head was $2\frac{1}{2}$ inches, the breadth of the upper surface, or that which looked towards the anterior wall of the abdomen of the *including* animal, was $1\frac{6}{8}$ inch at the shoulder, and $1\frac{1}{2}$ inch at the posterior part of the body. It was much contracted at the loins, where two folds of the intestine were closely tied to it,—one to the back, the other to the belly. The largest circumference of the head was found, at a subsequent part of the dissection, to measure $5\frac{1}{2}$ inches. The body was closely covered with hair, chiefly of a black colour. The head of the second or upper fœtus projected forwards below the pyloric orifice, and first portion of the duodenum, while its body extended downwards behind the small intestines. When uncovered at a later stage of the dissection, it was found to be nearly of the same length as the other, but was decidedly less in its other dimensions. Several detached dark masses, most of them composed entirely of hairs, adhered to different parts of the intestines, to the surfaces of the liver, the lower surface of the diaphragm, the omenta, and the stomach. Four bones were also observed upon the anterior surface of the liver. One of these masses of hair, $1\frac{1}{2}$ inch in length, and $\frac{1}{2}$ inch in breadth, was placed in the right side of a fold of small intestine, passing between the posterior portion of the

A Uterus
B Foetuses
C Masses of Hair
D Bones

PLATE, ILLUSTRATIVE OF PROFESSOR REID'S CASE OF MONSTROSITY BY INCLUSION.

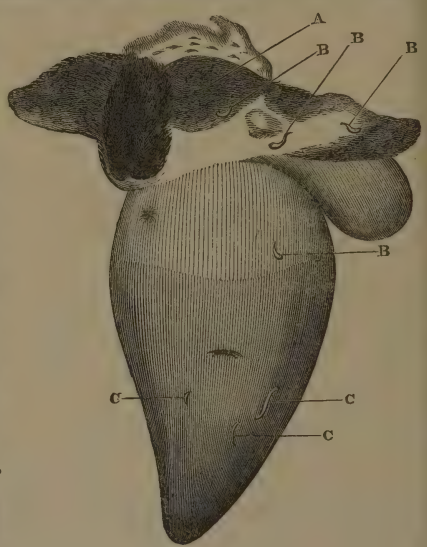
lower fœtus, and the head of the upper fœtus, and was covered at the superior part by a process of the large omentum. After the arteries had been injected with a fine size-injection, I proceeded to the more careful dissection of the parts, under the impression that this was a case of *extra-uterine conception*, and it was only after satisfying myself that the fœtuses, the masses of hair, and the detached bones, were all placed *outside* the cavity of the peritoneum, or in other words, between the outer surface of the peritoneal sac and the surfaces of the viscera on which they were lying, that the notion of its being a case of *monstrosity by inclusion* occurred to me.

I believe, every one will admit, that if this case were one of extra-uterine conception, the fœtuses, hair, and bones, would have been placed on the inner surface of the peritoneum, or in other words, within the peritoneal sac; while it is agreed, that in cases of monstrosity by inclusion, the included fœtal parts are situated outside the cavity of the peritoneum.[1] I am fully aware, that nothing but the most satisfactory evidence will suffice to overcome the strong impression, I had almost said conviction, that must arise in the mind of the reader at the first view of the history of this case, that it is merely one of extra-uterine conception. I deem it, therefore, necessary to state, that the relation of these extraneous masses in the abdomen to the peritoneal sac was examined with the greatest care, and that the dissections which I made, not only satisfied myself, but every practical anatomist who examined them, that the foreign masses were all situated outside that sac. A few days ago, Mr John Goodsir examined with me some of the masses of hair attached to the lower surface of the diaphragm, which had been left untouched in the previous dissections, and, with me, had not a doubt that they were placed between the surface of that muscle and the peritoneum covering it: this serous membrane was then of its natural appearance, and in no way altered.

On cutting through the peritoneal covering of one of the folds of intestine adhering to the back of the lower fœtus, and separating it from the subjacent muscular coat, it was distinctly traced over the upper surface of the fœtus, and found to adhere to a thin serous membrane enveloping the fœtus. These two membranes were loosely united to each other for a short distance, while over the middle of the body of the fœtus, they could with difficulty be separated. The passage of the peritoneal membrane over the upper surface of the fœtus was proved in another way. An incision was made through the membranes covering the head of the fœtus, and on raising them, it was seen that, on approaching the intestine, they divided into two layers,—one of these becoming continuous with the peritoneal coat of the intestine,—the other continuing closely to envelope the fœtus, and connect itself to the muscular

[1] Il est toujours situé en dehors du péritoine; c'est que son arrivée dans l'excavation abdominale, a précédé celle de l'intestin.—*Mémoire sur les Monstrosités dites par Inclusion, par Le Sauvage*, p. 30, Caen: 1829.

coat of the intestine by areolar tissue. The layer enveloping the fœtus like a sac, was single, and presented the characters of a serous membrane.[1] The upper fœtus was enveloped in the folds of the small intestines, and was also covered by two layers of serous membrane,—the one being continuous with the peritoneum, the other forming a sac enveloping the fœtus. Those portions of the walls of the intestines in immediate contact with the two fœtuses were uncovered with peritoneum. Numerous blood-vessels, chiefly continuous with those distributed in the sub-peritoneal cellular coat of the intestines, were ramified upon the outer surface of the sac enveloping the fœtus, and below the peritoneal coat. The large dark mass already mentioned as being $1\frac{1}{2}$ inch in length, and adhering to the outer surface of a fold of the small intestines, was placed between the muscular and peritoneal coats, the latter being elevated and very thin at the centre: the mass itself consisted of hair and bones, with blood-vessels ramifying through them. The patches of hair observed on the other parts of the intestine, the omenta and the stomach, were all placed completely outside the peritoneum, with the exception of a very few hairs, a small portion of one of the extremities of which projected through that membrane. A considerable mass of densely matted hair lay not only behind the gall-bladder, but even below the fibrous capsule of the liver, and in contact with the parenchyma. On cutting through the peritoneum covering one of the masses of hair on the left surface of the lobe of the liver, the hair was found to be imbedded in a depression in the substance of the liver, three or four lines in depth; some of them were intermixed with the parenchyma, and even a few projected from its substance as from the cutis. Four detached bones, (*represented in the engraving, and* c, c, c, *in woodcut No.* 2,) were embedded in the fibrous capsule of the liver. One of these was a long bone with cartilaginous epiphysis, another was a rib, the other two were fragments; one of the two latter was of a dark colour. On cutting through the peritoneum at the posterior part of the liver, at its reflection upon the inferior surface of the diaphragm,



WOOD-CUT No. 2,—*Explanation.*
A, Masses of hair, adhering to diaphragm.
B, B, B, Claws.
C, C, C, Bones on surface of liver.

[1] According to Le Sauvage, (opus. cit. p. 29,) Le fœtus inclus est enfermé dans un kiste séreux; ce kiste est forme par son amnios.

and throwing back the muscle, a large, and, for the most part, densely matted mass of hair was exposed, partly placed below the fibrous coat of the liver, and partly adhering to the lower surface of the muscle. Four well-formed claws were also found here, two of them placed at a little distance from the hair, and adhering to the fibrous capsule of the liver. (*Vide Woodcut*, No. 2.)

A pretty large artery, a branch of the gastro-epiploica dextra, ran downwards, and entered a dark mass, placed between the layers of the large omentum, and in front of the head of the upper fœtus. This mass consisted of hair, a fleshy-looking substance, and a claw. The artery, after having given several branches which ramified among these component parts of the mass, passed onward in its course among the layers of the omentum. On dissecting the folds of the intestine from that surface of the lower fœtus which was directed towards the spine of the *including* animal, those portions of the intestine in contact with the fœtus were found uncovered with peritoneum. One of these folds of intestine was in close contact with the ribs of the fœtus, which at this part were neither covered by hair nor muscle. The hair was collected in heaps along the outer edge of this fold of intestine, and a number of injected blood-vessels, perfectly visible by the naked eye, were seen passing from the muscular coat of the intestine, through the intercostal spaces in the fœtus. (*Vide Woodcut*, No. 1.) The only parts of this fœtus covered with skin were the head and posterior part of the neck, and the whole of the limbs, except at the upper portions. The rest of the surface was covered with great quantities of hair, from a quarter, to half an inch in length, closely matted together. The back part of the neck, and the bones of the limbs, were well covered with muscle, but the superficial muscles of the neck, and the anterior and lateral walls of the chest and abdomen, were entirely wanting. The clavicles and ribs were well formed and ossified, and, like the rest of the bones, were covered with periosteum; but they had no muscular fibres attached to them; and they were closely enveloped by hair. The long bones of the limbs were ossified in the centre, and cartilaginous at the extremities, and the tarsal and carpal bones were cartilaginous. The bones of the cranium were well formed, while the spinal column was imperfectly ossified, its spinous and transverse process being still cartilaginous, and the plates of the laminæ were neither united with the bodies of the vertebræ, nor with their fellows of the opposite side. Several imperfectly developed muscular bundles were placed upon, and adhered to the inferior surface of the vertebral column, but none were found on its dorsal surface. The eyes were wanting. The orbits, nostrils, and mouth, were full of hair. The tongue and hyoid bone were present. The jaws were well formed, but contained no teeth. The cavity of the chest contained a quantity of hair and fat surrounding a fleshy-looking mass, which consisted of a heart and a rudimentary lung. The œsophagus was not

present; a few imperfect cartilaginous rings lying behind the heart were all that appeared for the trachea; and the bronchi were absent. The cavity of the abdomen was full of fat and hair, and all the chylopoietic and urinary apparatus were wanting, except an imperfectly formed stomach. The diaphragm was also imperfectly formed. The pelvis contained a soft mass, which could not be resolved into any of the usual viscera of that cavity. An aorta, with its large branches to the head and thoracic extremities, and a pulmonary artery, with its ductus arteriosus, were easily traced. The aorta divided at the lower part of the abdomen into two branches, from each of which an artery arose, and passed outwards through a mass of hair, to a very vascular, and somewhat spongy portion of intestine. The interior of the cranium and the spinal canal were full of a turbid greyish fluid, and the dura mater was present. The brachial, the lumbar, and the sacral plexuses of nerves, with their branches, were of their usual size. The nervus vagus of one side was present, and of considerable size, sending branches to the heart, rudimentary lungs, and stomach. The sympathetic nerves were traced along the whole length of the spine. Numerous small injected blood-vessels were observed passing, from the branches ramified on the sac surrounding the fœtus, through the hair at different parts, to the surface of the bones and soft textures; but none were traced into their interior. The skeleton of the upper and smaller fœtus was in the same stage of ossification as the lower, but the ribs were dislocated and displaced. The only parts covered with integuments were the upper part of the head, and the lower part of the limbs. The ribs, the bones of the shoulder and pelvis, the outer surface of the humeri and ossa femora, and the greater part of the spinal column, were not covered with muscle, so that the masses of hair enveloping them were in contact with the periosteum. The inner surface of the humeri and ossa femora, and the lower part of the limbs, were covered with the usual muscular bundles. The orbits, the nostrils, the mouth, the chest, and the abdomen, were full of hair. No viscera could be detected in the chest, abdomen, or pelvis. Scarcely any muscular fibres were attached to the vertebræ, and these bones could be separated from each other by a slight force. The cranium and spinal canal were full of a turbid greyish fluid, and the dura mater was present. The brachial and sacral plexures of nerves, with some of their branches, were present. Some branches of blood-vessels were also found among the muscles of the limbs. The serous sac which enveloped this fœtus was folded in at different parts among the masses of hair, and reached the surface of the bones and the muscles. A considerable number of the blood-vessels ramified on this membrane, and were in close contact with the tissues of the fœtus.

From the details given above, it will be perceived, that the included fœtuses were monstrous formations: and in this respect,

the case agrees with the accounts given of all the well-authenticated examples of monstrosity by inclusion. We do not, however, attach much importance to this, as similar appearances may present themselves in an extra-uterine conception. We rest the proof of the correctness of the view we have taken of its nature entirely on the fact, very satisfactorily ascertained, that the included parts were all placed outside the peritoneal sac, and in positions sufficient, in our opinion, to prove, that they entered the abdomen of the including animal, before that membrane was formed. Had there been any imperfection in this part of the evidence, we would at once have concluded, that this case was one of extra-uterine conception. Cases of monstrosity by inclusion, or of *fœtus in fœtu*, however improbable at first sight they may appear, are now, as is well known, placed beyond a doubt. They have been observed in boys, and in females at an age when impregnation of the including individual was out of the question. References to the greater number of the best authenticated of these have already been given in this Journal (Vol. i. 1841, p. 121—124).[1] The various attempts which have been hitherto made to point out the causes which produce this kind of monstrosity are far from being satisfactory. According to Isidore G. Saint Hilaire,[2] the existence of monstrosity by inclusion in the lower animals is "a peine bien constatée pour une ou deux espèces."[3]

I may here take the opportunity of mentioning the two following cases, which I examined several years ago, and which are not of sufficient interest to be made the subject of a formal and separate notice.

I received from a friend the uterus of an old woman, in the left ovary of which was a tumour about the size of a billiard-ball. On cutting into this tumour, we found its contents chiefly composed of hair and fat, and a fully formed bicuspid tooth adhered by its roots to the inner surface of the sac. No other hard part was present in the tumour. The preparation is now in my collection. In similar cases, the amorphous mass, according to Meckel (*Journal Complém. des Sc. Médic.* tom. iv.), is more frequently situated in the right than in the left ovary, the teeth generally have no root, and

[1] Vide also Monthly Journal, Vol. v. (1845) p. 533.

[2] Histoire Générale et Particulière des Anomalies de l'Organization chez l'Homme et les Animaux, Tom. iii. p. 316. Paris: 1836.

[3] Mr Colman (Vide *Baillie's Morbid Anatomy*, p. 402, 4th Edition) discovered by dissection a tumour in the abdomen of a bay gelding, lying a little below the kidney, and of the size of a horse's testicle, containing two small molar horse-teeth, and one incisor tooth, with a portion of bone attached to the last, resembling a jaw, with a quantity of fat and black hair. It could not be ascertained whether both the testicles of this animal had descended. Some physiologists consider it probable, that such productions are the remains of a fœtus in fœtu. It could not have been a case of extra-uterine conception, though it is quite possible that the formation of such masses in the ovary may be occasionally caused in that way. The supposition that they may depend upon abnormal mutation, or too great excitation of the parts in which they are found, appears less satisfactory than that which refers them to monstrosity by inclusion.

according to Isodore G. St Hilaire, it rarely happens, that the teeth are unaccompanied by bones.[1]

I received the uterus of a sheep a few minutes after it had been removed from the body. The animal was in excellent condition, and had been killed by the butcher for the market. It was supposed to be with lamb in the spring, but it did not produce any; and being in good pasture, it rapidly became sufficiently fat for use. The uterus, when removed, was considerably larger than in the unimpregnated state, and on opening it, I found it full of bones, and skin covered with wool. All the bones of the skeleton were present, and the ossification was nearly advanced as far as is found in the lamb at the natural period of its birth, and all the muscles and even the ligaments had disappeared. The inner surface of the uterus was perfectly smooth, and covered with healthy mucous membrane. The parts had a very disagreeable, but not a putrid odour. The probable explanation of the facts of this case is, that the lamb had died, and instead of being expelled, had been retained in utero, and had been gradually reduced to the condition in which it was found at the death of the mother.

I have been informed of the particulars of a case very similar to the above. A cow was sold to a farmer as being with calf, and she presented the usual appearances of being in that condition. These appearances, however, began to disappear, and the farmer obtained, in a court of law, remuneration for the loss he had sustained by the cow not producing a calf, as it had been warranted pregnant. The cow was fed for the butcher immediately after this, and when killed, the remains of a fœtal calf were found in the uterus. When this was made known, the farmer was obliged to pay back the money he had received in the shape of damages.

ARTICLE IV.—*Case in which both Kidneys were placed on the same side of the Spinal Column.* *By* JOHN REID, M.D. Edin., *Fellow of the Royal College of Physicians of Edinburgh, and Chandos Professor of Anatomy and Medicine in the University of St Andrews.*

WHEN in charge of the dissecting rooms in Old Surgeon's Hall, Edinburgh, I found that in one of the bodies which was being dissected by the students, the kidney was wanting on the left, and that there were two kidneys on the other side. The one was placed below the other, and the lower end of the upper one, and the upper end of the under one, were fused together. The renal artery supplying the upper kidney was given off by the aorta, near its usual origin; the one supplying the lower kidney arose from

[1] "Il est rare que les dents trouvées dans les tumeurs ovariennes ne soient accompagnées d'aucun os. Baillie cite seul ou presque seul des faits de ce genre dans sa Morbid Anatomy."—Opus cit. Tom. ii. p. 549.

the aorta near its division into the two primitive iliacs. The ureter from the lower kidney passed across the mesial line, after entering the pelvis, so that these two tubes entered the bladder in the usual manner. The preparation is now in my collection. A case where the kidneys presented exactly the same appearance is described and figured by Dr John Hunter in the third volume of the *Medical Transactions of the College of Physicians in London*, Vol. iii. p. 250. 1785.

PART SECOND.

REVIEWS.

On the Changes induced in the Situation and Structure of the Internal Organs, under varying circumstances of Health and Disease; and on the Nature and External Indications of these changes. By Francis Sibson, *Resident Surgeon to the General Hospital, near Nottingham.* (From 12th vol. Trans. of the Provincial Med. & Surg. Association), 8vo, pp. 260; with numerous coloured woodcuts. Worcester: 1844.

This is one of the most useful works on Physical Diagnosis which have lately emanated from the medical press. It is long since we possessed accurate topographical drawings and descriptions of the relative anatomy of the different regions of the body liable to surgical diseases; and had physicians of past times revered the study of anatomy as they ought to have done, instead of almost despising it, or dreading it, as likely to throw discredit on their diagnosis, and endanger their favourite closet-formed hypotheses, such a volume as the present would long ere now have adorned our libraries. To some extent at least, this attempt has already been made, especially by recent authors,—among whom Professor Williams stands pre-eminent:—and it is but just to allow, that the laudable efforts of these observers may have served as guides to future exertion in the same paths of investigation.

These remarks are intended to apply chiefly to the topographical observations of the author, which form the most remarkable portion of his work. They are illustrated by 26 diagrams taken after death, and 14 during life, which point out in a clear and very satisfactory manner, the positions of the internal organs in health and in disease—during tranquillity—and after the various physiological and pathological movements or alterations in the sites of the parts. No physician, we trust, of modern times, will under-rate the practical importance of such an inquiry, executed with talent and care.

The method of constructing the diagrams is highly ingenious, and, doubtless, of the greatest advantage, as tending to ensure accuracy, perhaps beyond any other mode hitherto adopted; and this will be best understood from the following introductory remarks of the author:—

"It is now some years since I found that my notions of the usual and healthy sites of the various viscera were ill defined. To clear up this obscurity,

owing to which I was constantly at fault in examining patients suffering from chest diseases, I took diagrams of the position of the viscera, when making *post-mortem* examinations of the patients that died in the General Hospital near Nottingham. I first drew a careful outline of the ribs and sternum, and then added the internal viscera, taking care that their bearings to each other, and the ribs, were accurately planned.

"After a time, I procured a frame, and stretched strings across and along it, at distances from each other of three inches; the whole frame was thus subdivided into forty-five squares. I ruled a piece of paper with squares of a like fashion, but of one-third the size; the frame I laid over the subject to be copied, and with care and accuracy traced the objects that were behind each three-inch square upon the corresponding one-inch square on the paper.

"I showed these diagrams, from time to time, to Dr Hodgkin; he was interested in them, said they were of value, and gave me many important hints regarding them. Last winter, Dr Hodgkin exhibited and explained many of the diagrams at one of the conversaziones at St Thomas's Hospital, at the time when the medical school of that Institution had the advantage of his services. Some months before these diagrams were thus brought before the profession, Dr Hodgkin suggested to me a plan for taking them, which I immediately adopted—a plan that placed my inquiry on an entirely new and more solid footing. This method consists in drawing the outlines of the organs on a piece of lace, stretched on a frame and placed over the body; the sketch is transferred by placing the lace over a sheet of paper, a piece of the "manifold letter writing paper" being interposed. By pressing firmly with a point on the chalked outlines, they are traced in black on the paper beneath. By this plan, employed with care, perfect accuracy is ensured. It has the advantage also of being applicable to the living as well as to the dead.

"To reduce these full-sized diagrams to their present dimensions, I employed a pentagraph, that was recommended to me by Dr Hodgkin." Pp. 3—5.

All the diagnoses taken after death, are formed upon the plan of rendering the body and its different organs transparent, as it were, the parts being indicated by lines of different characters; thus, where the organ lies immediately below the surface, its outlines are dark; where the organ is deep-seated, its outlines are faint, (p. 6 or 310); and although this method is not peculiar to the author, he appears to have considerably extended its usefulness. The first portion of the work refers to the "*Actual and Relative Position of the Healthy Organs—Lungs and Heart*," each part of these organs—important in diagnosis—being carefully described so as to give, along with the diagrams, an increased degree of importance to physical diagnosis. The descriptive subdivisions are as follow:—"*Portion of lung above the clavicle*,"—*Lung behind the clavicle*,"—"*Lung behind the upper half of the sternum*,"—"*Right lung behind the lower half of the sternum*,"—"*Left lung—to the left of the heart*,"—"*Space of the heart's dulness*,"—"*Superficial percussion*,"—"*Lower margin of the right lung*,"—"*Lower edge of the left lung*,"—"*Contrasted percussion of the stomach and lung*,"—"*Fissures between the lobes of the lungs—their relative sites*,"—"*Inferior posterior bounds of lung*,"—"*Trachea*,"—and so on with regard to the heart, and great vessels, diaphragm, stomach, liver, spleen, kidney, and intestines, with special reference, however, to the thoracic viscera.

As a specimen of the author's descriptive style, we quote the following paragraphs on the above all-important subjects.

"*Portion of Lung above the Clavicle.*—If by the word Chest, as applied to the human subject, is meant the subdivided cavity in which are contained the heart and lungs, it will be found, in part, to occupy the lower portion of what is usually termed the neck, as the summit of the lung rises from an inch to an inch and a half above the clavicles. A clear knowledge of this supra-clavicular portion of lung is of the first moment in forming a diagnosis where incipient tubercles exist; here are these tubercles first formed; here may they be earliest detected.

"In front, behind, and on the outside, the portion of lung in question is rounded; it rests upon the first and second ribs, near their spinal attachment. It is pro-

tected, on the outside and in front, by the scaleni muscles. The pleura, which covers it, is strengthened and brought under muscular control by a fascia, the expanded aponeurosis of a small muscle, the pleural scalenus, arising from the transverse process of the last cervical vertebra, and inserted by a dome-like fascia into the whole of the upper edge of the first rib. The internal posterior surface of the upper portion of lung is separated from its fellow by the first and second dorsal vertebræ, the œsophagus, and the trachea. The anterior internal surface is hollowed, and, as it were, pushed aside, by the great vessels passing to and from the chest.

"*Lung behind the Clavicle.*—The lungs lie immediately behind the sternal ends of the clavicles, points where an examination of the comparative density of the two lungs may be made with ease and accuracy, whether in the sitting, standing, or lying posture. Unbutton the patient's shirt, give a tap or two over the clavicles, just to the outside of the sternum, and the ready answer will tell you, whether the lung is consolidated by, or free from tubercles. This little convenience in diagnosis is of much value when time presses, and allows of but a slight examination.

"*Lungs behind the upper half of the Sternum.*—The inner portions of both lungs rapidly converge and usually come in contact, two thin layers of pleura intervening, just behind the junction of the first and second bones of the sternum. The thymus body separates the lungs in children; and in boys, where the absorption of that body is not yet complete, the point of contact is lower than in adults; in old age and emphysema, on the other hand, the lungs meet each other above the usual point. The inner margins of the lungs lie side by side, just behind the centre of the sternum, as low as the junction of the fourth costal cartilages to the sternum, where they separate; but the place of separation varies considerably, ranging between the point opposite the third cartilages, and that opposite the fifth. In pericardial effusion the bulging forward of the swollen sac thrusts aside the inner edges of the lungs, and raises the point at which they separate, thus affording an index to the discovery of that disease. In cases of diseased heart, with adherent pericardium, the point of separation is almost always unusually high, much more so than in cases of diseased heart without adhesion, in which cases the co-existence of emphysema sometimes even lowers the point of separation.

"*Right Lung behind the lower half of the Sternum.*—The right lung continues its direct course downwards immediately behind the centre of the sternum, to the attachment of the xyphoid cartilage.

"*Left Lung to the left of the Heart.*—The inner margin of the left lung, after its separation from that of the right, passes obliquely downwards to the left, usually taking the course of the fourth costal cartilage. In some, especially the robust, and in cases of emphysema and bronchitis, the direction of this line is lower. Disease of the heart, with enlargement, does not affect the direction of this line; but where there are, in addition, pericardial adhesions, it is pushed upwards. When the inner margin of the oblique border of the left lung crosses the space below the costal cartilage and rib, behind which it lies, the curve becomes gradually vertical; towards the lower boundary of the lung, this edge usually curves from left to right, and forms a small projecting tongue, which is interposed between the apex of the heart and the ribs. In emphysema, bronchitis, and pneumonia, ailments in which the lung's bulk is increased, this internal margin of the left lung encroaches still further to the right, wedging in between the walls of the chest and the heart. Where the heart is enlarged, this margin on the other hand is pushed out of its usual place. In cases of pericardial effusion and adhesion, the displacement is still greater. By the careful observation of the direction of the inner lower margin of the lungs, in those cases where there are unequivocal signs of diseased heart, we may generally ascertain, whether that disease be simple enlargement, or enlargement with pericardial adhesion, or pericardial effusion.

"*Space of the Heart's Dulness.*—In the living body, where the lungs and heart are healthy, the space of the heart's dulness is bounded on the right by a

straight line at the centre of the sternum; above, by a line running along the fourth costal cartilage; to the left, by a curved line, usually to the right and below the nipple, the lower limb of which turns to the right. It is a very thin portion of lung that is wedged in between the heart and the ribs all round these bounds, to ascertain which peculiar tact is required; it is the most difficult lesson in percussion, and, for the discovery of heart disease, the most valuable.

"*Superficial Percussion.*—These superficial margins of lung are best detected by making a slight, superficial, quick, flapping tap, with the right fore-finger thrown, jerkingly, as it were, upon the left; or upon a pencil, placed as a plexi-meter upon the walls of the chest. I have not tried the leaden hammer, with a whalebone handle, suggested by Dr C. J. Williams, but, from its make, I judge it must be, especially to the inexperienced percussor, preferable to the finger for superficial percussion.

"*Lower margin of the Right Lung.*—The lower margin of the right lung turns off to the right, with a slight obliquity downwards for a short space, and then passes off almost directly to the right; sometimes, there is no obliquity, but the lung turns off sharply to the right. This lower bound of the right lung usually passes across the conjoint cartilages of the sixth and seventh ribs, and then behind the fifth intercostal space; it sometimes passes behind the fifth costal cartilage, and sometimes on the other hand, as in children, behind the sixth. This lower margin of the right lung is the very fine edge of a very thin layer of lung substance, placed between the costal parietes, and the diaphragm, bulged up as it is by the liver. To ascertain the edge of this portion of lung, the same style of percussion must be resorted to, as to ascertain the bounds of the heart's dulness. Any thing stronger, any thing deeper than a light flapping stroke, will bring out, not the sound of the film of lung immediately under the finger, but the dull dead sound of the deeper liver.

"*Lower edge of the Left Lung.*—The lower edge of the left lung is usually half a rib's breadth lower than the lower edge of the right lung; if that lower edge be behind the fifth intercostal space, the left is behind the sixth costal cartilage. If the lower edge of the right lung be behind the upper edge of the sixth costal cartilage, that of the left will be behind its lower edge. The inferior margin of the lung passes almost directly, or with a very gentle slope, to the left." Pp. 5—12.

The views adopted by our author, in regard to the SOUNDS OF RESPIRATION, are comparatively little known, and received by very few writers on this subject.

"*Respiratory Sounds heard over the Trachea and Lungs.—Laryngeal Sounds.*—During ordinary respiration, the sounds generated in the larynx by the passage of the air between the vocal chords are smooth, rather loud, and somewhat hissing.

"The sound heard on inspiration is almost identical in character with that heard on expiration, but is a shade sharper. The smaller the larynx, the quicker the breathing, the sharper and louder are the sounds produced. The larger the larynx, the slower the breathing, the softer and graver,—the more murmuring, —are the respiratory sounds.

"In children, whose larynx is small and whose breathing is quick, the sound is sharp, loud, and hissing; in large larynxed men, it is faint, soft, and murmuring. The deeper the vocal tones, the softer and graver are the respiratory sounds heard in the larynx.

"*Inspiratory Sounds:—Extent and relative Intensity.*—The inspiratory sound, excited in the larynx, is conducted by the trachea and bronchial tubes, and is carried by the air, in the air-tubes, to the surface of the chest. The nearer the wall is to the larynx, or to a large bronchial tube, the louder is the respiratory sound, the more alike is it in character to the laryngeal respiration. Over the upper part of the sternum, to each side of it, especially to the right, the sound is rather loud, but is softer, less continuous, and more murmuring than it is over the larynx. Over the upper front of the chest, below the clavicles, the sound is gently murmuring; over the lower part of the front of the chest, it is

often inaudible, and is always feeble; over the dorsum the sound is distinct; soft, and murmuring, between the scapulæ; it is somewhat louder on the right side than on the left; below the scapula it is very faint indeed.

"In children whose laryngeal sound is sharp and loud, and the walls of whose chest are nowhere very distant from the origin of the sound, the respiratory murmur is much louder than in man; it is in fact 'puerile.' In women, the respiratory murmur is fainter than in children, but louder than in men.

"At the beginning of an inspiration the respiratory murmur is louder than it is towards the end, when indeed the surface is further from the source of sound. When breathing is quickened, the inspiratory murmur is everywhere louder; and the sound heard over the lungs is nearly as loud at a distance from, as it is near to the larynx.

"*Expiratory Sound.*—The expiratory sound is almost as loud and as sharp over the larynx as the inspiratory; but as the current of air carries away that sound from the lungs, it is only conducted to them by the solid walls of the trachea and bronchial tubes. The expiratory sound is, in consequence, very faint indeed; in the adult it is usually only heard in the neck, and to the right, sometimes to the left of the sternum; also to the right, sometimes to the left of the vertebræ near the bases of the scapulæ.

"In old persons, the expiratory sound is scarcely audible except in the neck; but in children, and, to a less extent, in females, is louder and more extensive than in adult males.

"On breathing quickly, the expiratory sound is heard everywhere, and is quite as loud as the inspiratory.

"*Laryngeal Sounds are conducted to the surface and heard there on tranquil breathing.*—During ordinary inspiration, the inspiratory murmur is doubtless due to the conduction of the laryngeal sound, and not to a new sound generated in the air-cells; else would the inspiratory murmur be loudest where the air-cells are most numerous; but the reverse of this is the case.

"In tranquil inspiration, the air, as it advances, occupies more space, moves slower, and with less friction. In expiration, on the other hand, the air occupies, as it advances, a constantly narrowing space, moves quicker, and with more friction—conditions more favourable to the eliciting of sound; but the movement of the air is so slow, especially in adults, that no sound is produced; and, as none is conducted, none is heard.

"*Respiratory Sounds excited in the tissue of the Lung during hurried breathing.*—When the breathing is hurried, or voluntarily quickened, the inspired air generates sound by friction against the sides of the tubes, small and large; during rapid inspiration, sound is excited in like manner; but as the air passes from a large into a smaller space, it is often a shade louder than it is during rapid inspiration. These sounds are heard quite as loud over the lower and more distant, as over the upper and nearer portion of the lung." Pp. 378—381.

The way in which the respiratory sounds are here in part accounted for, is at variance with the generally received opinion on this subject. But, apart from the strong evidence which has been advanced in support of the author's views, it cannot but be regarded as a circumstance favourable to their truth, that they should also have been adopted, either partially or wholly, by writers of experience, such as Messrs Barth and Roger; and especially after the little countenance afforded by the latter authors in the first edition of their work on auscultation (1841), and the subsequent modification of their views after renewed consideration and experiment.[1] It appears that M. Chomel was the first to object to the explanation of Laennec in regard to the bronchial breath-sound, sometimes heard in pleuritic effusions, and after sagaciously propounding the following query, left the point to the decision of other observers. "Laennec," says he, "thinks that the bronchial respiratory sounds are owing to the inspired air being impeded (s'arrêté) in the bronchial tubes compressed and flattened by the pleuritic effusion; but then—why is the same sound heard during expi-

[1] Traité Pratique d'Auscultation, Paris, 1844.

ration? Is it not more likely, that it is produced in the larynx and back of the mouth (arrière-bouche), and transmitted to the ear applied upon the chest, in the same manner as the sound which is produced, and distinctly perceived (articulée) in the same organs."[1]

M. Beau was the first to consider the subject experimentally, and the following were the conclusions at which he arrived:—"1. That the first respiratory sounds, not complicated with râles, are not mechanically produced by the passage, and the friction of the air against the walls of the bronchial ramifications where they are heard. 2. That they are produced by the resounding throughout the whole column of air inspired, and expired, of a sound resulting from the striking (refoulement) of that column of air against the *velum palati*, or the neighbouring parts."[2]

These views, as previously stated, have found little favour among cotemporary observers, although supported by some very interesting experiments by M. Beau, and by Dr Spittal, the only author in this country—besides Mr Sibson—who has espoused the new explanation of the breath-sounds. In his communication, read to the British Association in 1838, several new experiments are detailed, which the author considered calculated to overcome the objections urged against those of M. Beau. They served, at the same time, to localize the site of the breath-sound *in the larynx*, as appears from the following remarks. "It is," says Dr Spittal, "matter of familiar observation, that a blowing rushing sound takes place both during inspiration and expiration, synchronous with, and consequent upon, the entrance and exit of the air from the lungs. This sound every one can hear distinctly, and in his own person, without any artificial aid, especially on full, free, and quick respiration; and we perceive at once, that it has its site in the upper portion of the respiratory passages. When the mouth is shut, it seems chiefly connected with the external nasal apertures; when open, we would refer it almost entirely to the mouth itself; *and when the latter is widely opened, to the back part of it, to which and the neighbouring parts, M. Beau refers it; and where perhaps it is not inaptly termed the "guttural respiratory sound.* On close examination by means of the stethoscope, *this sound appears to me*," continues Dr Spittal, "*to be loudest, and to have its origin at the upper part of the larynx; and probably is chiefly produced in the narrowest part of this, or at the rima glottidis, where the air, in passing to and from the lungs, and meeting with an impediment to its free passage, is thrown into sonorous reverberation;* and this is quite in accordance with all observation, in regard to the rapid or forcible movements of aeriform fluids."[3]

Messrs Barth and Roger object, probably on good grounds, to the exclusive manner in which this anatomical modification of M. Beau's theory has been adopted by this author,[4] who now "considers the resounding of the glottis sound (bruit glottique) during the passage of the air across that orifice, as the *only* cause of the tracheal, bronchial, and vesicular breath sounds."[5] M. Beau stands alone in this view of the subject, while those who admit the *bruit glottique* are not quite agreed as to the other cause or causes of the respiratory sounds. Dr Spittal's experiments are not advanced "to prove, that this is the only source of the respiratory sounds," but to show that the sounds perceived in the superior respiratory passages exert, in all probability, a considerable influence, if not in producing, at least in modifying the different respiratory sounds, known by the terms vesicular, bronchial, tracheal, cavernous, and amphoric respiratory murmurs."[6] After some experimental researches, Messrs Barth and Roger "conclude that the causes of the respiratory murmur are complex." They say, "we have proved in our experiments that the pulmonary sound perceived by transmission, has a certain degree of distance, and a blowing (soufflant) charac-

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[1] Dict. de Méd. Tom. xvii. 133; 1827.—Barth and Roger, p. 35; 1844.
[2] Arch. Gén. de Méd., Vol. v., Paris, 1834.
[3] Edin. Med. & Surg. Jour., Vol. xli., 1839.
[4] Arch. Gén. de Méd., 1840. [5] Traité d'Auscultation, p. 38; 1844.
[6] Op. cit.

ter, whilst the sounds produced by the passage of the air, even in the parenchyma, are heard under the ear."[1] Again, in summing up their views, the following remarks occur, "without contesting the influence of the *bruit glottique* and its reverberation in the different portions of the respiratory apparatus, we are of opinion that there is also formed, by the passage of the air, a sound in the inferior air-tubes; and that in consequence of this double cause, a sound is produced in the pulmonary system which varies in the different parts, laryngeal in the larynx, tracheal in the trachea, bronchial in the bronchi, and vesicular in the vesicules."[2]

Mr Sibson's observations do not differ greatly from those just quoted—for while he is of opinion that the laryngeal sounds are conducted to the surface and heard there on tranquil breathing, he at the same time admits, that the respiratory sounds are excited in the tissue of the lung during hurried breathing.

Having enlarged so much on the respiratory sounds in breath, as set forth by our author, we have only space at present, to give the heads of the subsequent portion of the work, which are as follows:—I. The form of the surface of the body indicates the seat and outlines of the internal organs; considered in reference to children, adult men, and women; and following upon the latter are some excellent remarks, upon the altered positions of the thoracic and abdominal organs, consequent upon the insane practice of tight lacing, with which mothers as well as physicians ought to be acquainted. II. Diseases of the lungs where the bulk of both lungs is enlarged. III. Diseases of the lungs where one organ and one side of the chest are amplified. IV. Diseases in which the bulk of the affected lung is lessened. V. Other diseases in which the lungs are wholly or partially diminished. VI. The heart in the state of health. VII. Pericarditis. With some very interesting remarks on the topographical examinations as to the alterations in the friction and other sounds, day by day. VIII. Enlargement of the heart without pericardial adhesion. IX. Pericardial adhesions. These different subjects are admirably illustrated by diagrams from the living and the dead.

We strongly recommend Mr Sibson's work to the practical physician, who will find much assistance from it, in the diagnosis of thoracic and abdominal diseases.

The author's style is occasionally obscure; and must be improved in the next edition. So satisfied, however, are we with the intrinsic value of his work, that we would like to see it republished in a separate form, *properly paged*, and possessing an *index of some sort*. We hope that he will also add the "various diagrams and tabulated cases" omitted from the present work, for want of space. *The diagrams ought to be placed together*, we beg to suggest, either at the beginning, or end of the work. Meantime, let us conclude by calling special attention to Mr Sibson's labours, and by cordially encouraging him to go on with the exploration of the difficult, but most useful path which he has chosen.

Organic Alterations of the Heart; and particularly on the Beneficial Employment of Iron in the Treatment of such Cases. By S. Scott Alison, M.D., *Member of the Royal College of Physicians of London, &c.* 16mo, pp. 62. London: 1845.

This little book is evidently the production of a safe and enlightened practitioner. We crave attention to the following extract.

"For the *Treatment of Organic Alteration of the Heart*, to be as fully efficient as possible, it must fulfil all the indications which enlightened physiology and

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[1] Op. cit. p. 40.

[2] Op. Cit. p. 48.

pathology supply. These indications are numerous. The most prominent are the removal or abatement of the primary obstacle to the circulation, the repression of inordinate nutrition, the prevention or abatement of dilatation, and the maintenance of hypertrophy at that point necessary to meet the wants of the system, when undue resistance to the circulation is to be overcome.

"For the fulfilment of these indications, the employment of foxglove, bleeding, and the antiphlogistic regimen, alone, are very inadequate. A mode of treatment is demanded, which, while it shall relieve the heart of oppression or congestion, and repress inordinate nutrition, shall lend healthful vigour to that organ, and to the system generally. With such an adjusting practice as that to which the author has briefly alluded, he fears not to say, that the relief and palliation of organic disease are not less attainable than the cure of pericarditis under the abstraction of blood, and the use of mercury. In practice, it will be found, that the imparting of vigour to the heart and system is an indication of the greatest importance, and in numerous instances, this will be effected in a most efficient manner by the use of IRON. Iron is capable of improving the health of the subject of organic alteration of the heart in a surprising manner, and greatly amending the condition of the organ which is expressly in fault." . . . . "It is true, that this agent cannot restore the enlarged heart to its normal size; nevertheless, if it enable the enlarged heart to perform its office in an improved manner, consistent with the enjoyment of health for some, perhaps many years, it possesses much of the practical value of a really curative remedy. To afford, as the author believes iron can, in cases of organic alteration of the heart, ease to the laboured respiration, calmness and vigour to the palpitating and overwhelmed heart, comparative freedom from flatulent distention of the stomach, and an accession of strength to the entire system—are desiderata, the value of which none will pause to question, who have stood in need of them. . . . . But it must never be forgotten, that the exhibition of this agent can fulfil only some indications, and that in most instances of organic alteration of the heart, there are other indications which require the employment of other means. However useful the exhibition of iron may be in cases of organic alteration of the heart, it must ever be remembered, that it is only in some instances this remedy is applicable, and that in every instance, circumstances may occasionally arise, which preclude its employment." Pp. 15—19.

It is useful and usual to administer preparations of iron in certain functional disorders of the heart; but it is not so common, we believe, to employ them, when there is far advanced hypertrophy, with or without other organic disease of that organ. Under this impression, and having found from experience that the practice is often of signal benefit, we have selected the above passage, as a specimen of Dr Scott Alison's tiny, but most sensible volume. Along with other important precepts, the author very judiciously enforces, that local depletion is not incompatible with general invigorating treatment.

Physiological Essay on the Thymus Gland. By JOHN SIMON, F.R.S., 4to., pp. 100. London: 1845.

THE late Sir Astley Cooper, by his testament, founded a triennial prize of L.300, for the best work, on some subject of original research, in anatomy and physiology. The THYMUS GLAND was prescribed for the first competition; and the physicians and surgeons of Guy's Hospital, as the constituted trustees of the great surgeon's well directed munificence, have conferred the prize on Mr Simon, for the work now before us.

In the historical or introductory portion of the essay, the author evinces a complete knowledge of the literature of his subject; and in its subsequent details, he thoroughly impresses the reader with his ability to act as the explorer of a little known, though not untrodden field. There is much advanced by Mr

Simon, which may or may not be confirmed by future investigators; but there is also much matter brought forward, which is undoubtedly both new and true: and we gladly testify, that the work is one of rare beauty and excellence.

Sir Astley Cooper,—unconsciously, perhaps,—following the old anatomists, asked the question:—"Is it not probable, that the thymus gland is designed to prepare a fluid, well fitted for the fœtal growth and nourishment, from the blood of the mother, before the birth of the fœtus, and, consequently, before chyle is formed from food?—and this process continues for a short time after birth, the quantity of fluid secreted from the thymus gradually declining, as that of chylification becomes gradually established." This view Mr Simon supports; regarding the thymus gland as an organ, *the function of which is to prepare nutrient matter for the young animal.* He refutes the notion of Teidemann, Arnold, and others, that its "activity is in the inverse proportion to that of the lung, and that during the quiescence of this organ, it effects for the embryo, a kind of vicarious respiration, by separating a carbonaceous product." Chemistry demonstrates, that "the thymus, in the period of its highest activity, instead of being surcharged with carbon, in reality contains no more of that element, than may be found in blood or muscle."

From the Chapter on the Comparative Anatomy of the Organ, which is decidedly the most complete portion of the Essay, we learn the important fact, that *the thymus gland exists in all animals which breathe by lungs, and is peculiar to them.*

We regret that we cannot find room for a full analysis of Mr Simon's work: but we have great confidence in recommending it, as one of a very high class, and replete with important observations.

The Half-Yearly Abstract of the Medical Sciences. Edited by W. H. Ranking, M.D. Cantab. Vol. i. January—June 1845. 12mo, pp. 391. London: 1845.

Retrospect of Practical Medicine and Surgery. Edited by W. Braithwaite, Vol. xi. January—June 1845. 12mo, pp. 335. London: 1845.

The sole object of the Editors of these works is to present, every six months, the most important matter which has appeared in the British and Foreign Journals; as we endeavour to do, from month to month, in our Periscope. Their task seems to be exceedingly lightened by the labours of ourselves and other journalists; as we observe, that the best articles which they give from the foreign journals, are coolly taken from us, or others, at second hand. In general, we *are quoted,* as a polite acknowledgment for the money and time which it has cost us, to get early translations and abstracts for our readers. It often happens, however, that a strange craft—a reckless privateer which sails under false colours—gets the credit of what we or some of our legitimate brethren are entitled to. In this matter we certainly impute carelessness to Dr Ranking, and Mr Braithwaite; for we do think that it is culpably remiss to cite the *Medical Times* as the authority whence articles have been derived, which were expressly written for, and printed in, some other work, equally patent, and, indeed, as appears, constantly consulted by the half-yearly analysts.

Mr Braithwaite has too frequently recourse to the scissors, and generally substitutes clipping for condensation. Dr Ranking's abstracts are obviously the result of more labour. Mr Braithwaite gives a good alphabetical index to the subjects and authors, which makes his book much more convenient for reference than its young rival, in which there is only a table of contents.

Dr Ranking's "*Reports*" are very useful. That there should be a few traces of hasty reading and crude compilation in them, is not to be wondered at. Their constant occurrence, in all works of the same description, forcibly points out, how extremely difficult it is, to give a correct periodical digest of any

branch of medical science. As illustrating this remark, in its bearing upon Dr Ranking, we beg to be excused for selecting a topic somewhat personal.

At page 237 of Dr Ranking's "Report on Midwifery and the Diseases of Women and Children," we find in one short paragraph of eight lines many errors. We give the paragraph entire.

"*Malformations.*—Among the malformations of the fœtus which may offer an impediment to parturition, the only one which offers any interest is the discovery by M. Bouchacourt, (*Gazette des Hôpitaux, Fév.* 1845,) of a peculiar hydatid degeneration of the kidneys, caused, as he believes, by an arrest of development consequent on the obliteration of the ureter. The author adduces a case in which this malformation had gained such dimensions, that puncture was necessary in order to complete the labour. The same disease had been previously noticed by Rayer, and has recently been illustrated in a paper by Dr Cormack. (*London and Edinburgh Monthly Journal*, January 1845.)"

The matter stands thus:—In the MONTHLY JOURNAL for *August* 1844, and *not for January* 1845, appeared Dr Cormack's Essay on "INTRA-UTERINE CYSTOUS DISEASE OF THE KIDNEY," in which he pointed out, and illustrated, that there were three distinct forms of cystous disease in the fœtal, as in the adult kidney. In the *Gazette Médicale de Paris* for 1st February 1845, and *not in the Gazette des Hôpitaux*, M. Bouchacourt published one new case, which was transferred to the March number of this Journal, p. 242. M. Bouchacourt's paper gives no additional information on the subject of which it treats; and in place of containing anything that can be termed "*a discovery*," omits to give much of the information which Dr Cormack compiled from authors, and all of that which he derived from his own observations, in a very remarkable case, described and figured by him, of "non-hydatid cystous disease, *without* obstruction of uriniferous vessels."

We reserve some remarks upon the publications now under notice, till their next appearance; by which time, we hear, that another competitor is to be in the field.

Pentaglot Dictionary of the Terms employed in Anatomy, Physiology, Pathology, Practical Medicine, Surgery, Obstetrics, Medical Jurisprudence, Materia Medica, Pharmacy, Medical Zoology, Botany, and Chemistry. In Two Parts.—PART I. *With the Leading Term in French, followed by the Synonymes in the Greek, Latin, German, and English; Explanations in English, and copious Illustrations in the different Languages.*—PART II. *A German-English-French Dictionary, comprehending the Scientific German Terms of the preceding Part. By* SHIRLEY PALMER, M.D., *of Tamworth and Birmingham.* 8vo, pp. 655. London: 1845.

WE have transcribed the complete title-page of this Pentaglot Dictionary of Medical and Scientific Terms, as it affords a very good summary account of the information which the work affords.

Dr Palmer has produced a most valuable lexicon, of a kind much required by those who read the treatises of our French and German brethren in their original languages. Having experienced essential assistance from it ourselves, we are anxious to recommend it to others, as a good help. We hope that Dr Palmer will render it still more complete, by adding the Italian, Spanish, and Danish scientific terms. Were it not that our Danish friends largely employ the Latin for their technical expressions, we would often find ourselves sorely puzzled, in preparing translations and abstracts from the *Bibliothek for Laeger*, —Dr C. Otto's admirable journal.

Practical Treatise on Special Diseases of the Skin. *By* C. M. GIBERT, *of St Louis.* Second Edition. *Translated by* EDGAR SHEPPARD. 12mo, pp. 362. London: 1845.

THIS is a very good book on Dermatology; but we hardly think there was a call for it, Burgess's translation of Cazenave and Schlegel having been already, and so recently, brought into the field.

The cutaneous affections connected with scarlatina, variola, rubeola, erysipelas, and other constitutional diseases, are not treated of by the author,—a circumstance which will detract from the acceptability of the work as a Manual. Willan's classification is adopted in a modified form.

As a favourable specimen, we extract the following passage, in the facts and doctrines of which we believe.

"SYPHILIS IN THE INFANT.

"It is always by a syphilitic eruption, that the poison transmitted from the mother," (or father?) "is discovered in an infant. It usually shows itself towards the close of the first, or at the beginning of the second month after birth. It has its seat on the perineum, the internal surface of the thighs, and the neighbourhood of the organs of generation, in the form of flat *tubercules*, or syphilitic *ecthyma;* and thence, it spreads over a variable extent of the integuments. A little later, the mucous membranes become affected, particularly the mouth, and the labial commissures; it is then, if the child be confided to a nurse to suckle, that the nipple of the latter ulcerates, and the disease is communicated thereby. Syphilis in the infant is always a severe malady: it frequently falls a victim to it in a few weeks. Nevertheless, if the infant be well constituted, and we treat the nurse and the child, and if they are both placed in favourable hygienic conditions, a cure is very easily obtained. This is much surer, too, in cases where the infant is merely secondarily infected; that is to say, if it has received the poison posterior to birth, as, for example, in the very common case, where the nurse has suckled her own child conjointly with the strange one infected by its parents.

"We generally confine ourselves, in children, to the employment of topical applications, such as unctions with the following pommade:—

Opiate cerate,[1] ℥j,
Ammoniacal bichloride of mercury, ʒj. Mix.

"Care is, moreover, taken to prescribe emollient baths, and to watch that the infant is properly cleansed. If it is being suckled, the nurse is made to take corrosive sublimate internally in the form of pills, such, for instance, as the following:—

Extract of Aconite, gr.xij.,
Powdered Opium, gr.ij.,
Bichloride of Mercury, gr.ij. Mix, and divide into eight pills: one to be taken each morning at breakfast." P. 357.

We do not think that there will be danger to the infant in prescribing the above quantity of opium to its nurse; but as *a general caution*, it is well to remember that dangerous and even fatal narcotism is often induced in sucking infants, by the indiscreet exhibition of opium to their nurses. A very painful case of this kind was recently communicated to us. The aconite, being a precarious medicine, and not essential to the above formula, had better be omitted.

[1] Upon turning up *Dorvault's Repertory*, (a useful work, noticed at p. 291 of our April number), we find that the Opiate Cerate of the Parisian hospitals is composed of 30 parts of the cerate of Galen to 4 of Sydenham's laudanum. Galen's cerate consists of almond oil, 150 parts; white wax, 125 parts; and water of roses, 375 parts. Sydenham's laudanum is thus prepared:—Take of opium 60 parts; saffron, 30 parts; cinnamon, 4 parts; cloves, 4 parts; and Malaga wine, 1500 parts. Macerate for fifteen days: subject to strong pressure: and then filter.

Practical Treatise on Inflammation, Ulceration, and Induration of the Neck of the Uterus; with Remarks on the Value of Leucorrhœa and Prolapsus Uteri as Symptoms of Uterine Disease. By JAMES HENRY BENNET, M.D., &c., &c. 12mo, pp. 212. London: 1845.

DR HENRY BENNET, the accomplished author of the work before us, was formerly House-Physician, (by *concours*), to the Hospitals of Paris, and, in turn, discharged the duties of that important office at St Louis, La Pitié, and La Salpétrière. These great Institutions afforded him a vast and varied field for observing and studying uterine disease. A sketch of his experience in this important class of maladies was first published as his Thesis, when he graduated at Paris; then in *The Lancet* of this year; and they are now laid before us, revised and extended, in the shape of a book. Few works issue from the medical press, which are at once original and sound in doctrine; but such, we feel assured, is the admirable treatise now before us. The important practical precepts, which the author inculcates, are all rigidly deduced from facts.

The work consists of Seven Chapters.

The First Chapter treats of "*Inflammation, Ulceration, and Induration of the Cervix Uteri in Women who have not borne Children.*"

The author correctly suggests, that the disease termed *Irritable Uterus* by English authors, and on which they lay much stress, is far less common than they suppose, and that many are treated for it, who would, by the use of the speculum, be found to be labouring under inflammation and ulceration of the cervix uteri. This is a point of much practical importance. For example, *Sterility* results from congestion of the neck of the womb, and that copious purulent secretion, which clogs up the uterine orifice, in even a slightly inflamed state of these parts. "Young females," says Dr Bennet, "seldom become pregnant whilst suffering from this affection. Messrs Gendrin, Emery, and Jobert, whose experience of uterine disease in private life is very great, have repeatedly told me, that they have known many young married women their patients, who had remained sterile whilst labouring under this form of uterine disease, and had become pregnant as soon as cured." P. 21. Inflammation, if unchecked, may occasion—not to mention, in the mean time, greater evils—stricture and distorsion of the os uteri, the permanent cause of infecundity in many; but which may, certainly in some instances, be cured by the careful and well-timed use of bougies or sponge tents. When the affection is in its early or acute stage, recourse to such measures will be decidedly injurious, increasing the local mischief, and often giving rise to considerable constitutional disturbance.

Dr Bennet gives an account of the healthy cervix and os uteri, which we recommend to the notice of our readers, for its clearness and brevity. We forbear from quoting the passage, having so recently given the excellent observations of Drs Boys de Loury and Costilhes on the same subject.[1] (*Vide p.* 545 *of July number.*)

In *Virgins*, it is probable, that inflammation occasionally extends from the vagina to the cervix, but that "not being kept up, or increased by mechanical irritation," it "soon subsides, the ulcerations healing of themselves, as is the case with aphthæ in the mouth."

In *Married Females*, "if any slight irritation of the internal genital organs exists, the cervix uteri is sure to suffer. It is continually contunded and bruised, and the irritation passes on to inflammation and to ulceration; which

[1] The papers of these gentlemen embrace a good deal of the matter contained in Dr Bennet's work; but as they began to appear—excepting the Thesis of M. Costilhes—after Dr Bennet's series in *The Lancet* was completed, we have not deemed it advisable to consider them at present. We will, as formerly intimated, transfer to our Periscope what appears of most importance in them.

latter does not heal, but becomes permanent, owing to the same circumstance. Thus, aphthous inflammations of the fauces, of the cervix uteri, or slight attacks of vaginitis,—nearly innocuous in virgins,—are frequently the primary cause of inflammation and ulceration of the cervix in women exposed to sexual intercourse, whom, for the sake of brevity, I shall henceforth call *married females*. In many instances, no doubt, sexual intercourse will alone give rise to the disease. This being the case, we ought not to be surprised to find inflammation and ulceration nearly always present, when a confirmed muco-purulent (leucorrhœal) discharge exists in married women, even if they have never borne children. In these cases, the leucorrhœal discharge may be merely the result and the symptom of the ulceration of the cervix; or, the inflammation and ulceration may have superadded themselves to ordinary leucorrhœa, aggravating and perpetuating it." Pp. 8, 9.

Dr Bennet establishes a FUNDAMENTAL DIFFERENCE IN PRACTICE, BETWEEN INFLAMMATION OF THE CERVIX, IN THOSE WHO HAVE NOT, AND IN THOSE WHO HAVE BORNE CHILDREN.—In the former class, the disease may be very distressing, giving rise to chronic muco-purulent discharge, and undermining the health; but is seldom followed, as it is in the latter, by hypertrophy, induration, and prolapsus.

The SYMPTOMS of inflammation of the cervix in the first class, and the method of detecting them, are thus luminously unfolded:—

"The inflammation is nearly always confined to the mucous membrane, the deeper structures seldom becoming implicated, except in cases of general metritis. The inflammation may co-exist with general vaginitis, as is usually the case in gonorrhœa; it may be confined to the uterine neck, and to that part of the vaginal cavity which is in contact with it, viz., the superior fourth or fifth; or it may be limited to the orifice of the os uteri. The leucorrhœal discharge may be a prominent symptom, or it may be absent, or nearly so; which is the case, when the inflammation is very limited, the muco-purulent secretion being then but slight, and lost in the vagina. This generally occurs when the inflammation is the result of sexual communication. There are, however, other symptoms present to guide us in our diagnosis. The patient complains of pain in the loins, and sometimes, of deeply-situated pain in the hypogastric region, behind the pubes, and (a most important symptom) intercourse is painful. This latter fact alone may lead us to suspect the existence of disease. Sometimes, there is a vivid perception of heat at the superior portion of the vagina. There is no sensation of weight, heaviness, or bearing down, except in extreme cases, in which the malady has been long neglected.

"*Toucher.*—On examining by the toucher, the neck of the uterus is found hotter than the lower part of the vagina; it has lost its unctuous, greasy feel; its volume is more or less increased, as also its elasticity, owing to its being more or less congested. Still, there is no general or deep-seated induration of its tissue. The surface, likewise, is smooth and unresisting, unless ulceration has set in. When this is the case, it is at the orifice of the uterine cavity that the ulceration commonly begins, and from that region that it spreads; owing, no doubt, to the greater tenuity and delicacy of the mucous membrane. Pathologists generally state that the ulceration may be recognised, by its producing the sensation that a velvety surface would offer when the finger is passed lightly over it. Finding, however, that this peculiar sensation is so difficult to appreciate in this form of the disease, and that those who rely upon it alone must be as often wrong as right, I have endeavoured to discover a more correct guide, and have ascertained that ulceration of the mucous surface, however limited, almost invariably gives rise to slight induration of the tissue underneath, which induration is very perceptible to the touch. In the form of ulceration that we are now examining, the induration to which I allude is quite superficial, not extending to the central tissue of the uterine neck. It is merely a thickening of the ulcerated mucous membrane, and of the sub-cellular tissue, most perceptible at the circumference of the ulceration; yet it is easily appreciated by the finger of one who is accustomed to feel for it, and to him is a valuable symptom. This superficial induration is generally felt most distinctly

at the edge of the uterine lips, where the mucous membrane passes into the cavity of the neck, and where, consequently, two mucous thicknesses are approximated by the folding of the membrane. Although I have found this symptom of great assistance in the diagnosis of ulcerations, I must confess, nevertheless, that it is not infallible. In the very first stage of ulceration, induration may not yet exist, whilst, on the other hand, the ulceration may heal, and the superficial induration remain for a few days. When the inflammatory induration extends to the entire substance of the cervix, as it generally does, if the ulceration exists in women who have had children, the superficial induration is necessarily lost in the general hardness. Pressure on the inflamed and ulcerated cervix will often, not always, occasion slight pain, which is never the case in the healthy state."

"*Speculum.*—On examination by the speculum, a certain quantity of mucopurulent matter is *always* found at the superior region of the vagina, even when the lining membrane of that organ is not inflamed; the cervix uteri is generally increased in size, but seldom so much so as not to be admitted into the cavity of an ordinary-sized conical speculum,—the one I generally use, and by far the most convenient, and the least painful to the patient. The tumefaction is mostly greatest on the upper lip, which is the larger one of the two in the healthy condition; it is therefore often necessary, in order to expose the orifice of the os, to raise the speculum towards the pubes, and by thus slightly pressing with the superior edge of the instrument on the anterior lip, to push it back, and allow the inferior one to enter its cavity. Even if the cervix uteri is too large to be admitted at once into the speculum, by thus alternately depressing its different parts, the entire organ may successively be brought fairly into view. When inflamed, the tumefied cervix presents a more or less intense red, glistening hue, instead of the pale, dull, whitish colour, which is natural to it. On its surface may frequently be seen small white or red vesicular, or papular elevations, the result of distention of the mucous follicles, or of their hypertrophy. Different forms of inflammation have been admitted by some writers, founded on this appearance, but without any practical utility whatever. When the mucous membrane is ulcerated, the glossy appearance of the membranous surface is lost, and a number of vascular granulations, of a vivid red hue, are seen covering the ulcerated region, after the mucus has been wiped away with a pledget of lint—a necessary precaution. Sometimes, the ulcerated surface appears raised above the adjacent level, whilst occasionally, on the contrary, it appears depressed. When the ulceration is at the entrance of the os uteri, it is often difficult to discover, unless the uterine lips be slightly separated. There is generally a mass of semi-transparent mucus occupying the cavity of the os uteri. The ulceration may be so superficial and slight as to be scarcely perceptible, or extend over a considerable portion of the cervix. In many cases, the pressure of the edge of the speculum, or even of the pledget with which the mucus is wiped off, occasions a slight oozing of blood from the abraded or ulcerated surface. This also frequently occurs when patients thus affected expose themselves to intercourse—a fact of which they themselves are often cognizant. Menstruation is generally more painful than in the healthy state, owing to the temporary congestion of the uterus increasing the inflammatory irritation of the cervix. Indeed, the occurrence of the various symptoms of painful and difficult menstruation, when coupled with a leucorrhœal discharge, may be considered, in most cases, as pathognomonic of inflammation and ulceration of the cervix. Occasionally, slight irritation of the urinary organs is present, giving rise to frequent desire to urinate. The annoyance and distress of mind which the local symptoms sometimes produce, coupled with the leucorrhœal discharge, when it is abundant, may re-act more or less on the general health, and give rise to dyspepsia, palpitation, general weakness, &c.

"Such are the symptoms which ulceration of the cervix and os uteri usually occasion in the unimpregnated female. The inflammation, ulceration, and induration, are nearly always superficial—limited to the mucous membrane. The cervix becomes tumefied, congested, but remains soft and spongy. There is scarcely ever the deep-seated, solid engorgement of the cervix, which is so

often met with as the result of the same lesions in females who have borne children, and which is occasioned by inflammation and effusion of lymph in the central tissues of the neck, giving rise to the peculiarly distressing bearing-down pains experienced by persons thus afflicted. The reason is evident. Although subject to the periodical menstrual congestion, the uterus is, until impregnated, in a dormant condition, as it were. Its mucous membrane is a mere film, and its proper tissue, which we have followed into the neck, is in an elementary fibro-muscular state, very sparingly supplied with blood, and possessing a very subdued vitality." Pp. 9–16.

The two following cases will fully illustrate the views developed by the author, in the passage just quoted; and will also exhibit the treatment which he recommends.

"Case. *Disease rather severe.— Cause, marriage.— Cure perfect.*—At the beginning of 1844, a gentleman, who had been married about four months, requested me to see his lady, who, he stated, had been suffering for some time. The lady, four-and-twenty years of age, was apparently in the enjoyment of robust health,—the various functions being all accomplished with great regularity. On inquiring minutely, however, into her state, I found, that she had experienced pains in the loins nearly ever since her marriage; that these pains had gradually increased, had lately been accompanied by slight pain behind the pelvis, and by a deep-seated sensation of heat in the same region; that intercourse, at first unattended by pain, had, a few weeks after marriage, become painful, and was then unbearable, from the last-mentioned cause. There was no perceptible leucorrhœal discharge. Being convinced that inflammation and ulceration of the uterine neck were the cause of these symptoms, I obtained the consent of the parties to an examination.

"On practising the toucher, I found increased heat in the superior region of the vagina, and a large tumefied, but soft and pulpy, cervix uteri. The anterior lip was evidently much more tumefied than the posterior; on its margin, I distinctly felt a superficial induration of several lines in length, presenting a rather uneven surface. The speculum having been introduced, I found the mucous membrane of the lower two-fourths of the vagina perfectly healthy, but the superior fourth was red, inflamed, and partly covered with a muco-purulent secretion, especially where in contact with the inflamed cervix. The latter was of an uniform red colour. The anterior lip was so much congested and swollen, as to occupy nearly all the concavity of the speculum, and to cover the orifice of the uterine cavity, and the under lip. On its being pushed back so as to expose the latter parts, a circular ulceration, about the size of a shilling, was discovered around the os, but more especially extending on the anterior lip. The pressure of the speculum was found rather painful. A slight oozing of blood took place on the copious muco-purulent secretion, which covered the ulcerated surface, being wiped away. When this had been done, the mucus passing from the interior to the cavity of the neck was found quite transparent,—a proof that the internal surface of the uterine cavity was not inflamed. The entire surface of the cervix, and upper part of the vagina, was painted over with the solid nitrate of silver, which was passed two or three times over the ulcerated region, and into the cavity of the os for a couple of lines. The application of the caustic was scarcely attended with any pain. The patient was then told to use cold water vaginal injections several times a-day, for two days, and, after that period, injections with the sulphate of zinc. She was also requested to remain quietly at home, on an easy chair, or a sofa, and, as a matter of course, forbidden any communication with her husband.

"A couple of days after the cauterization, the pains in the loins and pelvis had much abated, as also the other symptoms above-mentioned.

"On the eighth day, the cauterization was repeated, the tumefaction of the cervix had much diminished, as also the inflammatory congestion. The ulcerated surface was decidedly smaller. The same local treatment was pursued. On the sixteenth day, nearly all pain in the loins had disappeared; the cervix uteri was evidently rapidly regaining its natural size, and the ulceration had

still further diminished. She was allowed to ride out in a carriage, and even to walk in moderation.

"Cauterization with the nitrate of silver was again resorted to on the twenty-first and twenty-fifth day, but much more slightly, and on the thirty-second she was quite cured. The ulceration had cicatrised, without leaving the slightest induration behind it. The tumefaction of the uterine neck had disappeared, and it had regained its usual coloration and unctuous feel to the touch. I need scarcely say, that not a vestige of the symptoms experienced during the preceding months remained. I gave her no medicine internally during the treatment, because she did not require any, and did not even think it necessary to modify her usual diet, which was simple." Pp. 17–20.

"CASE. *Disease very slight.—Cause, the same as in the previous case.—Cure perfect.*—In Paris, as all who are acquainted with Parisian matters well know, the police is very severe, and exercises great scrutiny and control over all persons who are not regularly domiciliated householders. In pursuance of this line of conduct, domiciliary visits are made at irregular periods, in the middle of the night, in the lower order of hotels or lodging houses, and also in those inhabited by students. This is a precaution rendered absolutely necessary, by the irregularity of the lives of some of them, and by the circumstance of their congregating, to the number of fifty, a hundred, or more, in the favourite hotels of the 'Pays Latin.' When these '*descentes*,' as they are called, take place, every room is visited, and all persons whose passports are not found in order, as also all females, are forwarded to the Prefecture de Police. The following morning, the latter are generally sent to St Lazare, (the hospital and penitentiary for unfortunates), unless claimed by two respectable householders. These severe means are adopted, partly with a view to the discovery and arrest of suspicious characters, and partly as a moral check.

"On one of these 'descentes,' a young person, named Jourg, eighteen years of age, was taken, and, not having any friends, was detained by the police. In the course of a few days, she was examined by the police medical authorities,—a precaution usually adopted in these cases, previous to being discharged,—and was found by them to be labouring under slight ulceration of the os uteri.

"It was thought that the affection might be syphilitic; and as she was not an enrolled woman of the town, she was sent to a general hospital, (L'Ourcine), and not to the infirmary of St Lazare. The hospital physician kept her a few days, and then, not considering her affection sufficiently severe to require further treatment, sent her back to the police. Here she was again examined by the police physician, who, finding that the ulceration had not been cured, sent her into M. Emery's ward at St Louis, where she consequently came under my notice.

"On examination by the toucher, 4th July 1843, the cervix uteri appeared small and soft, and there was a scarcely perceptible, very superficial, and very circumscribed induration; no pain on pressure. The speculum showed the vagina to be narrow, and of the natural hue, unto very nearly its superior extremity, where it became rather red and injected. The cervix was small, about the size of the ungeal portion of the medius finger; it was evidently congested, but soft, offering little or no resistance to pressure. On its anterior aspect there was a small abrasion, about the size of a sixpence, covered with minute red granulations, and a little semi-purulent mucus. There was no other mucopurulent discharge in the vicinity. The mucus issuing from the uterine orifice was perfectly transparent; no pain whatever in the loins, or hypogastric region; no heat or burning sensations; no leucorrhœal discharge; health perfectly good. The patient said, that had she not been told she was ill, she should not have thought that there was anything at all the matter with her. She stated, that she had been brought up in the conntry; that eight months previously she had come to Paris, and had lived since her arrival by working as a sempstress; that she had made acquaintance with a student, who had persuaded her to accompany him home to his lodgings a few days before she was seized by the police, and that it was the first and only time she had known any one—an assertion

which the state of the organs tended to corroborate. She had menstruated for three years, had never experienced any leucorrhœal discharge whatever, and had always been in excellent health. M. Emery, the physician who at first examined her, told me that the lesion, which was very slight indeed, had increased since then; whilst she was at the Ourcine, she had been treated by emollient injections. It was therefore considered that these means were not sufficiently energetic, and the ulcerated surface was cauterized by the acid nitrate of mercury. Emollient injections and general baths were also resorted to.

"The tumefaction of the cervix, and the ulceration increased under the influence of the first cauterization, which was evidently rather too energetic, but decreased under that of the second, third, and fourth, which were performed at intervals of six days.

"On the 5th of August the tumefaction and redness of the cervix had disappeared, and the ulceration was all but healed. Astringent injections were then alone used, and on the 15th of August she left, perfectly cured." Pp. 22–26.

In the *Second Chapter* the author treats of "*Inflammation and Ulceration of the Cervix Uteri in Women who are Pregnant, or have borne Children.* The perusal of this chapter has impressed upon us very forcibly the extreme importance of the fundamental distinction, so far as practice is concerned, which the author establishes between inflammation of the cervix, in those who have not, and in those who have had abortions or children. Dr Bennet states, "not as the result of statistical researches, but as the impression left on his mind by the examination of a very large number of cases," that out of *twenty* cases of non-venereal inflammation and ulceration of the cervix which we meet with in practice, *seventeen* may be directly traced to abortion or to labour; *two* will recognise other causes, and occur in women who have borne children; whilst *one* only will be found in females who have never conceived."

The explanation which the author gives of the mode in which the disease commences, in the most important and most numerous class of cases, is deserving of special attention. He conceives, that during the rapid dilatation of the os uteri which accompanies parturition, the mucous membrane lining the cavity of the cervix is more or less contused or lacerated; and this, we suspect, happens much more frequently, and in a greater degree, than is generally supposed. In ordinary cases, these contusions or lacerations heal rapidly after delivery; but if any abnormal inflammatory action sets in, they ulcerate; and the ulceration, passing out of the os, extends into the cervix. This partly explains the great frequency of the disease.

In consequence of the change which takes place in the tissues of the womb, subsequent to impregnation, hypertrophy and induration often follow, and become serious complications of inflammation. This important fact is, we fear, not known, or lost sight of, by the majority of practitioners; and thereby disease is perpetuated, or only an imperfect cure obtained. The light which our author throws upon this point cannot fail to introduce an improved practice. The following extract will be read with interest.

"In the majority of women, these lesions disappear promptly, cicatrization taking place with the greatest ease, under the influence of the retraction of the tissues of the neck, and of the reparative phlegmasia which sets up, after delivery, in the cervix, as well as in the body of the uterus. But if the physiological inflammation of the uterus which follows parturition should prolong its duration, and assume a pathological character; if remnants of the placenta or of the membranes left in the uterine cavity give rise, by their decomposition, to an irritating fœtid discharge, it is easy to understand, that the lesions of the mucous membrane, instead of healing, will almost inevitably become the seat of inflammation and of subsequent ulceration.

"When inflammation and ulceration of the cervix uteri recognise this origin, it will generally, but not always, be found, on inquiry, that the last abortion or labour was followed by untoward symptoms of more or less intensity, varying from severe metritis to mere uterine pains, or by a fœtid and unpleasant lochial discharge. In such cases, the ulceration will at first exist between the

lips of the os uteri, or even in its cavity, and if the patient is examined soon enough, it ought to be possible to follow the course of the ulceration as it escapes from the os, and spreads itself on the cervix. This I have been fortunate enough to do, on several occasions. In the first case or two in which I thus saw, a few weeks after labour, a small ulceration issuing from the lips of the os uteri, I was struck with the fact, but did not attempt to explain it. But the comparison which I afterwards made between these cases and others in which the lesion of the neck could only be traced to an easy labour, followed, in some instances, by metritis, and in others not, led me to remark the clue which evidently exists between the cause and the effect." Pp. 37-39.

In illustration of these remarks, we subjoin, in a slightly abridged form, the following case.

"CASE. *Disease slight at first; general induration sets in whilst under treatment:—Cure perfect.*—On the 1st of June 1843, Octavie, aged 22, came under my care, in the wards of M. Emery, at St Louis. Of a delicate constitution, her health had, nevertheless, been always pretty good. She menstruated at the age of fifteen, and had continued regular until about ten months before, when she became pregnant for the first time, and was delivered in the beginning of May, after an easy labour. She did not attempt to suckle her child. Six days after her confinement, she fatigued herself considerably. The lochial discharge nearly disappearing, she was seized with rather violent uterine pains, and obliged to take to her bed for the greater part of a week. Finding, when she got up, that the uterine pains, although much less intense, still persisted, she determined on entering the St Louis, where she arrived not quite a month after her delivery. On examination, she was found to present the following symptoms:—

"Tongue loaded; loss of appetite; cephalalgia; muscular weakness; no pain in the lumbar region, but slight pain on pressure in the hypogastric; slight sensation of weight in the pelvis; no lochial discharge. I ascertained, by the toucher, that the uterus was still larger than natural—a fact which her recent confinement sufficiently explained. The cervix was rather voluminous, but presented no local or general induration. With the speculum, I found considerable congestion and redness of the superior portion of the vagina, and especially of the uterine neck. On separating gently the lips of the os uteri, I distinctly saw, on the internal surface of each lip, a small ulceration. The mucus situated between the lips, which I had previously wiped off, was semi-purulent, and not abundant. The parietes of the vagina were the seat of a slight muco-purulent secretion. Under the impression that the ulceration might heal spontaneously, and with the view of observing its progress, the only measures adopted were, emollient vaginal injections, and rest in the horizontal position. The slightly disordered state of the digestive tube, indicated by the other symptoms, was treated by laxatives and diet.

"*June* 10. All indications of a disordered state of the digestive canal have disappeared, and the general health is satisfactory, but the uterine symptoms have increased in intensity. The deep-seated hypogastric pain is greater, and she complains of pain in the lumbar region. Around the os uteri, the finger perceives a velvety surface, resting on a slight superficial induration. The density of the entire cervix is increased, as well as its volume. On examining with the speculum, the cervix is found to be evidently more voluminous, and offers greater resistance to pressure. The ulceration has escaped from the os uteri, and extended itself on the cervix, so as to present a surface as large as a sixpence when the lips of the os uteri are closed. The mucous membrane which covers the cervix is injected; the mucus between the lips scanty, but purulent; a slight purulent secretion in the upper part of the vagina, which is also injected; sensation of increased heat in the same region; no general febrile reaction. Emollient vaginal injections, baths, horizontal position, and light diet.

"*June* 16. The hypogastric and lumbar pains are the same as before. For the last day or two she has experienced, when standing, a sensation of weight and heaviness in the pelvis, similar to what she felt for the first week or two after her confinement. The cervix presents the same velvety sensation, but

the superficial induration is nearly lost in general inflammatory induration of the entire substance of the cervix, (engorgement); the speculum shows that the external ulceration is larger, about the size of a shilling, and more angry-looking than on the last examination. The tissue of the enlarged and engorged cervix resists on pressure. The mucous membrane lining the cervix and superior portion of the vagina is of a vivid red, especially the former, and secretes an abundant muco-purulent fluid. For the last few days she has had a leucorrhœal discharge. The engorgement of the cervix is evidently inflammatory. It is rather painful on pressure, and directed slightly backwards towards the rectum. It was clear that the ulceration was progressing, and becoming more severe, and that the inflammation which accompanied it had extended to the deeper tissue of the cervix, and given rise to inflammatory engorgement of the entire organ. This extension of the disease was no doubt partly to be attributed to the indocility of the patient, whom it was impossible to keep quiet. A more energetic treatment being evidently indicated, the ulcerated surface was cauterized with the acid nitrate of mercury, both within and without the cavity of the cervix. Vaginal injections with the sulphate of alum were prescribed, and the patient was positively ordered to remain in bed.

"*June* 24. Hypogastric and lumbar pains diminished, as also the sensation of heaviness, and the leucorrhœal discharge. The cervix still voluminous and resistant, but redness less intense. The ulceration has not extended, and the granulations are smaller. Repeat the cauterization; continue the injections and the baths.

"*July* 21. The hypogastric and lumbar pains, and the sensation of weight, have nearly disappeared; indeed, they are only perceptible when the patient is standing or walking. The size and consistence of the cervix have much diminished; the ulcerated surface is beginning to cicatrize on its outer margin; the injection of the surface of the cervix and of the superior portion of the vagina has, in a great measure, subsided. Repeat the cauterization; same treatment.

"On the 8th, the twenty-fourth day from the first cauterization, the hypogastric and lumbar pains, as also the sensation of weight, were no longer experienced under any circumstances. The cervix had returned nearly to its natural size and colour; the ulcerated surface was, in a great measure, cicatrized, but not entirely. The patient, however, being free from all abnormal sensation, and feeling well in health, refused to stay any longer in the hospital, and left. She promised to return, in order to be examined every week until quite well, but did not keep her word." Pp. 39—44.

The author states, on the authority of M. Boys de Loury, that ulceration of the cervix is common in pregnant women, and that when not arrested, it often causes abortion. The aggravated forms of this affection are sometimes mistaken for cancer, and operated on as such. (*Vide Bennet*, p. 64.)

Dr Bennet is firmly convinced, that, in nine cases out of ten, Prolapsus Uteri is occasioned by the hypertrophy of the cervix, which follows its inflammation and ulceration. If the observations of other equally extensive and equally competent practitioners bear out this view, the advantages which will accrue in practice will be immense; and then truly may the treatise now under review be esteemed a valuable accession to medical literature. Dr Bennet's treatment of prolapsus, we will afterwards notice.

The way in which Anteversion, Retroversion, and Prolapsus result from engorgement of the cervix uteri, is remarkably well explained in the following passage:—

"The uterus is so slightly poised or suspended in the cavity of the pelvis, that the slightest modification in its volume gives rise to a change in its position. The inflammatory hypertrophy of the cervix increasing considerably the specific gravity of the inferior portion of the uterus, the entire organ descends, or *prolapses*. The cervix is thus brought much nearer to the vulva; at the

same time it frequently falls backwards, and presses on the posterior parietes of the vagina, whilst the body of the uterus is carried more or less forward. This latter change of position, which constitutes anteversion of the uterus, or retroversion of the neck, is not, however, so common as partial prolapsus. Whenever there is much engorgement of the cervix, there is always more or less prolapsus if the patient is standing; the degree to which it is carried depending on the extent of the hypertrophy, and on the state of the vagina. If the vagina has retained its tone and its contractility, it will support the uterus; but if, on the contrary, it is lax, and offers no support to the engorged cervix, as is sometimes the case in women who have had many children, the latter may fall as far as the orifice of the vulva. This abnormal laxity of the vagina may be occasioned by the disease itself; the distention of the superior portion of the vagina by the hypertrophied cervix diminishing its tonicity. The engorged cervix then falls, as it were, into a non-contractile pouch.

"The direction of the healthy cervix varies considerably, even in females who have never suffered from uterine disease. In most it is directed to the vulva, whereas in others it is turned backwards, and points to the anus. This latter direction of the cervix is stated, by M. Lisfranc, to be one of the results of marriage." Pp. 53, 54.

The general and special symptoms which characterize displacements of the uterus are well described. For these, however, we must refer to the work itself, and conclude our notice of this chapter, by extracting, in a scarcely abridged form, three cases.

The first illustrates *the Milder Forms of Inflammation, Ulceration, and Induration of the Neck of the Womb, in Women who have borne Children.*

"CASE. *Disease not severe. Ulceration, with slight general induration, following metritis, the result of abortion. Cure perfect.*—On the 10th of July 1843, a young woman, aged 21, presented herself at St Louis. Robust, and tolerably healthy in appearance, she had always enjoyed good health. At 19, she was delivered of a full-grown child, and soon recovered. Three months and a half ago, she miscarried at seven months, at the 'Clinique.' The miscarriage was followed by metritis. She remained three weeks in the hospital. On leaving, she felt well, but severe lumbar and hypogastric pains came on as soon as she began to walk, and she was obliged to re-enter the Hôtel Dieu, where she remained in bed several days, taking baths and using emollient injections. Finding herself quite well, she again left. The pains, however, soon returning with increased intensity, accompanied by leucorrhœal discharge and cardialgia, she applied at St Louis, and was admitted.

"I found that the menstrua had not appeared since the abortion; there was pain in the loins and hypogastrium; sensation of weight in the pelvis, but only when standing or walking; slight leucorrhœal discharge; cardialgia, but appetite good; complexion natural. By the *toucher*, I ascertained that the os uteri was rather open, and presented a velvety sensation; cervix rather engorged in its entire extent, but more especially near the lips of the os; not very voluminous, being easily received into the extremity of the speculum. Around the os uteri there was an ulceration as large as a sixpence, presenting small healthy granulations. The remainder of the cervix was deeply injected, as also the superior part of the vagina; muco-purulent secretion on the inflamed surfaces; mucus issuing from the uterus perfectly transparent; uterus natural size. *Treatment:*—Baths; rest in horizontal position; astringent vaginal injections; cauterization with the acid nitrate of mercury.

"On the 20th, the lumbar and hypogastric pains had diminished, as also the local inflammatory symptoms, and the cauterization was repeated.

"On the 22d, she complained of severe uterine pain. The uterus was rather sensible on pressure through the parietes of the abdomen; and there was slight febrile action. Fearing an attack of metritis, forty leeches were applied to the hypogastrium and to the groins. The leeches bled profusely, and on the following day the menstrua made their appearance; the uterine pains at once abated; they were evidently merely the result of severe uterine congestion, the

forerunner of menstruation. The loss of blood which followed the application of the leeches, by relieving this congestion, allowed the menstrual excretion to take place. The menstrual flux lasted four days, but was not very abundant.

"On the 28th, the lumbar and hypogastric pains were no longer felt. The cervix had diminished in size, and presented less resistance; the ulceration was beginning to heal on its circumference. The cauterization was repeated, and the same treatment pursued.

"The ulceration was again cauterized on the 8th of August, and on the 20th she left, quite cured.

"In this young woman, the ulceration most likely began in the cavity of the os uteri subsequently to the metritis, and was the cause of the induration of the cervix, and of all the other symptoms." Pp. 65–68.

The following case illustrates the *more severe form of the disease in women who have borne children.*

Case. "*Disease very severe.—Cause, Abortion.—Cervix deeply fissured.—General health very much impaired.—Cure perfect.*—E—— D——, aged 35, entered St Louis on 1st June 1843. Of a naturally robust constitution, she had never had any important illness, except the present. Married at seventeen; she had since had eleven children without a miscarriage. Her labours were always easy, and she soon recovered. In the eighth month of pregnancy, she was beaten until she lost consciousness. Abundant flooding followed, and lasted five days, when she was delivered, by the forceps, of a dead child. She was obliged to remain in bed for a month, and was even then for many weeks, scarcely able to sit up; and has remained very ill ever since. In April, the menstrua returned, but with flooding, which lasted twenty-two days. On admission, she presented the following symptoms:—

"Extreme emaciation; features drawn, and sallow; the coloration of the skin is universally of a yellow, cancerous hue; cephalalgia; does not sleep; tongue loaded; no appetite; cardialgia; diarrhœa; has generally fever in the latter part of the day; abundant leucorrhœal discharge; often sanguinolent; severe pains in hypogastrium, increased by pressure, also in lumbar region, and along the thighs; sensation of pelvic weight and falling down; pain in making water, none in defecation. *Toucher:*—cervix within an inch or two of the vulva, the large and small labia of which are lax, red, and congested; the vagina is also lax, the finger penetrating into it as into a non-contractile pouch. It contains a large quantity of muco-pus. The cervix is voluminous, and thrown back on the rectum; it is unequal in its surface, being divided into three lobules, by two deep fissures. These fissures, however, radiate from the centre, and the lobules themselves are smooth, and regular in their irregularity. The entire cervix is extremely indurated; the induration passes on to the posterior and anterior surface of the uterus; the latter organ is considerably increased in size, and is sensible on pressure; the surface of the cervix presents a velvety sensation; the finger with which the toucher is performed is tinged with blood, and has an offensive odour, but not that penetrating nauseating smell which is found in ulcerated cancer. *Speculum:*—the cervix is too large to be received into the largest speculum; the anterior lip alone fills it; an ulceration, covered with large bleeding granulations, is perceived on the cervix, which it partly covers; considerable pain, caused by the examination; lips open; muco-pus issuing from the os. *Treatment:*—cauterization of the ulcerated surface with the acid nitrate of mercury every week; emollient injections four or five times a-day; poultices to the abdomen; absolute rest in bed; general baths at the bed-side; emollient enemata, with a few drops of laudanum; beaf-tea only at first, and afterwards very light diet.

"Under the influence of these measures the diarrhœa soon stopped, and in the course of about ten days, improvement began to manifest itself, both in the local symptoms and in the general health. This improvement became rapidly more decided; the lumbar and hypogastric pains diminished, as also the muco-purulent discharge; the uterus diminished in size, and the inflammatory induration was soon confined to the cervix. This latter then began to decrease;

the ulceration formerly stationary, cicatrizing; the leucorrhœal discharge diminished, and the vagina gradually regained its tone; the tongue became clean; appetite and sleep returned, and the skin gradually lost its yellow hue. This patient was very docile; she remained a month in bed, and when she was allowed to rise, refrained, as requested, from walking.

"On the 20th of July, the ulceration was quite healed, and the mucous membrane had regained its natural colour. The induration of the cervix had all but entirely disappeared, and the organ itself had nearly recovered its natural size and position. The discharge had quite ceased; she experienced no pelvic heaviness and no pain, and the general health was becoming tolerable. She was, however, still very pale and weak. She had menstruated twice during her residence in the hospital,—about a fortnight after her admission, and a few days before she left. The first time, she suffered a great deal, and lost a large quantity of blood—much less, however, than previously. The second time, the menstrua appeared nearly as usual, with the exception of slight colics. Wishing to rejoin her children, she entreated to be allowed to leave, and was therefore dismissed.

"This is one of the most interesting cases that I have, as yet, met with. The cancerous hue of the skin, the extreme emaciation, the flooding, and sanguinolent discharge; the irregular, indurated, lobulated, and ulcerated cervix, would all have induced one who was not well acquainted with uterine disease to consider, that he had to do with a case of ulcerated cancer. Indeed, I am fully convinced, that *many of the instances of cured cancer narrated in modern works were no other than cases of this kind.* By attending, however, to the history of the disease, and by a careful analysis of the symptoms, a correct diagnosis became possible. It is worthy of remark, that a simple antiphlogistic treatment, coupled with cauterization, in this instance, in less than two months cured the ulceration, and entirely resolved the induration of the uterus and cervix. The reason, no doubt, was, that this induration being of an acutely inflammatory nature, was more amenable to antiphlogistic remedies. In the first array of symptoms, we find there was no pain in defecation, although the cervix was so voluminous and retroverted. This is to be accounted for by the diarrhœa." Pp. 84–89.

The next case which we quote is taken by Dr Bennet from the thesis of M. Costilhes, as an illustration of *ulceration of the cervix during pregnancy.*

"CASE. *Rather severe case, from the Thesis of M. Costilhes.*—Clara B——, aged 21, entered St Lazare the 2nd Sept. 1842, being in the fourth [?] month of her first pregnancy. She has never had any syphilitic disease.—*Toucher:* neck voluminous, indurated, ulcerated, and sanguinolent; she has pain habitually in the hypogastrium.—*Speculum:* on the engorged cervix, an ulceration the size of half-a-crown, of a fungous, vegetating nature, and violet coloured; abundant leucorrhœa.—*Treatment:* injections with decoction of walnut-leaves; cauterization twice a-week with the nitrate of mercury; baths.—This treatment was continued until the 6th of March, without any perceptible improvement; she was then cauterized twice a-week with Vienna paste solidified, (caustic potass and carbonate of lime,) and injections of acetate of alum, three times a-day, were substituted for those first used. The ulceration began to give way under this treatment, and was nearly well, when, on the 1st of May, she was taken in labour, and was delivered of a full-grown child. The labour was tedious, but unaccompanied by any unusual occurrence. The ulceration re-appeared after delivery, but gave way to emollient and then astringent injections, and she left, cured, on the 6th of July." Pp. 89, 90.

The Third Chapter is devoted to the consideration of *Syphilitic Ulcerations of the Cervix Uteri.*

Dr Bennet throws light upon this part, as he does, we may safely say, on every part of his subject. There can be little doubt, as he remarks, that such cases as the following have given a certain currency to the erroneous doctrine, zealously maintained by some authors, that blennorrhagia and syphilis are identical.

"Case. *Blennorrhagia.—A Chancre appears at the os uteri a fortnight after the commencement of treatment.— Cure.*—A. M——, a housekeeper, aged thirty, entered the Hospital of St Louis, the 1st of May 1843. Of robust constitution, she habitually enjoys good health, and menstruates regularly. Some few years ago, she bore a full-grown child; she has not presented since then any uterine symptom, nor suffered from leucorrhœa. For the last two years, she has lived with an elderly person, with whom she keeps up intercourse. A few weeks before her admission, she communicated to this person a chancre, which was followed by a bubo. She confesses having exposed herself to suspicious communication. She was carefully examined in town with the speculum, but no trace of a chancre was found. The entire surface of the vagina, I was told, was then the seat of an abundant muco-puriform discharge, but there was no other lesion; the cervix and os uteri were perfectly healthy.

"After her admission, I examined, very carefully, the external and internal genital organs, the case, as presented to my notice, bearing directly on the identity of blennorrhagia and syphilis; and tending to prove, that blennorrhagia is susceptible of communicating chancre. I did not, however, find the slightest erosion of any portion of the mucous surface. The cervix was perfectly natural and healthy, not even congested, merely presenting a slight redness of its mucous membrane, in common with that of the vagina. Between the lips of the os uteri, there was a stream of opaque muco-pus apparently issuing from the cavity of the uterus. The uterus was slightly sensible on pressure, and rather more voluminous than in the natural state; but as she had menstruated only two days previously, I did not attach much importance to these symptoms. On opening the lips of the os uteri as much as possible with the speculum, and wiping away the muco-pus, I saw no appreciable lesion.

"Founding my opinion on the data furnished by the above examination, I concluded, that the disease was merely blennorrhagia, occupying the entire vagina, and extending into the uterine cavity. The patient was therefore treated accordingly, viz., with cubebs, balsam copaibæ, emollient injections, general baths, and light diet.) The inflammatory symptoms, and the discharge diminished rapidly.

"In the ten days which followed, she was twice examined with the speculum, for I was most anxious thoroughly to investigate the case, and each time the cervix presented the same appearance; merely the redness gradually diminished, as likewise that of the vagina: the increased sensibility and the congestion of the uterus had entirely disappeared.

"On the 16th of May, I again applied the speculum, and saw distinctly a small ulceration issuing from the cavity of the os uteri, and turning over on to the anterior lip. The ulceration presented a greyish surface, and an irregular indurated margin; it was deemed to be a true chancre by M. Emery, as well as by myself, and many other persons who saw it. Under this impression, it was cauterized with the acid nitrate of mercury, and the patient was submitted to a mercurial treatment—viz., bichloride of mercury, one-seventh of a grain, and sarsaparilla.

"In spite of these measures, the ulceration extended itself over a surface as large as a fourpenny piece. It lost, however, its characteristic appearance after the second cauterization. The increase of the ulceration was attended with gradual induration of the anterior lip of the cervix, which became as large as a small walnut. The cauterization was repeated every week. After the third, the ulceration began to diminish in size, but it was not cicatrized until the end of July. The flow of muco-pus from between the lips of the os ceased a short time after the escape of the chancre from the cavity of the os. The blennorrhagia disappeared during the course of the treatment. The administration of mercury was continued during a month, without producing salivation. No other syphilitic symptoms manifested themselves. The patient left cured on the first of August. There was still a little engorgement of the anterior lip of the cervix." Pp. 102–105.

The author concludes his account of Syphilitic Ulceration by three propositions:—

"*First*, The real classical chancre, presenting its ordinary physical characters, is *excessively* rare on the cervix uteri.

Secondly, Ulcerations presenting the characters of the inflammatory ulceration are, on the contrary, excessively common on patients labouring under blennorrhagia, or primary, secondary, and tertiary syphilis.

Thirdly, Some few of these ulcerations may be primary or secondary, but the very great majority are merely inflammatory." P. 122.

Chapter Fourth we must pass over. It contains a short practical account of *Cancerous Ulceration of the Uterine Neck.*

The Three Last Chapters,—the Fifth, Sixth, and Seventh, are devoted to a consideration of the treatment of the several affections discussed in the preceding portion of the work.

In women who have not borne children, inflammation of the neck of the uterus is generally a comparatively mild affection, and whether with or without ulceration, may commonly be cured by rest and the use of astringent lotions, provided the latter be brought into actual contact with the seat of disease, which, unless the patient be properly instructed in the manner of using them, is seldom the case. Superficial cauterization with various substances—but especially with the solid nitrate of silver—will, in the severer cases, speedily effect a cure. It is important, however, for the practitioner to know, that in this class of cases, it is rarely necessary to distress the patient by the repeated introduction of the speculum, which instrument must of course be employed when caustic in any form is resorted to.

We have seen, that, while inflammation and ulceration of the cervix uteri in those who have, and in those who have not, borne children, is essentially the same yet, in each, the practice will usually require to be very differently conducted.

In the married woman, we must bear specially in remembrance, that we are accomplishing but a very imperfect cure when we heal the ulceration. We must never be satisfied till we have assured ourselves that there is no remaining hypertrophy. The treatment successfully employed for the ulceration will of course diminish the hypertrophy, and the practitioner may conceive that what is left of it will disappear in time, and so it often may; but if considerable, and the patient lead an active life, the hypertrophy, which, with timely care, might have been removed, will cause and perpetuate prolapsus, anteversion, exhausting discharges, and all those distressing symptoms under which languish so many women, who have been thus neglected. On this subject let the author speak.

"Complete rest, which, in ulceration unaccompanied by induration, I stated to be only extremely desirable, is now indispensable. Indeed, if the patient can be prevailed upon to keep her bed for a few weeks, it is much the best plan. When walking, standing, or even sitting, the enlarged cervix drags down the uterus; whereas, when the patient is lying down, this does not occur. If there is a good deal of hypogastric pain, large linseed poultices applied to the hypogastrium, and changed occasionally, will often give great relief. These poultices should be made thin, or otherwise their weight is painful. Tepid or cold hip-baths twice a-day are useful adjuncts to the treatment. There is great difference of opinion respecting the influence of hip-baths over uterine diseases, some practitioners contending, that they give rise to congestion of the pelvic viscera, and do harm. If used warm, this may be the case, but when tepid or cold, they do not produce any such effect. They are habitually employed by M. Gendrin in the treatment of chronic pelvic inflammations, and always with good results, as I can testify, after witnessing for several years the effects which they produce.

"In these cases, cauterization of the ulcerated surface may generally be resorted to from the first, but the action of the nitrate of silver is too superficial, and the acid nitrate of mercury, or caustic potassa, should be preferred. Emollient or astringent injections should also be used. When the inflammation is confined to the neck, emollient injections will suffice; if the vagina is also inflamed, astringent injections are indicated. Attention must be paid, at the same time, to the condition of the bowels, and to the general health.

"The treatment may be confined to these measures for two or three weeks, during which time the influence of the medication followed must be narrowly watched. If the ulceration becomes less angry looking, if the granulations assume a healthier appearance, and if the hypertrophy of the neck appears rapidly to decrease, the treatment may be continued, as it will probably prove quite sufficient to effect a complete cure. But if this is not the case, if the amelioration which at first takes place, ceases, or if the ulceration appears inclined to heal without the induration giving way, other measures must be resorted to.

"The most efficacious is the application of leeches directly to the uterine neck itself. They are extremely useful agents in subduing deep-seated chronic inflammation in this region. The following is the easiest way to apply them: after introducing an ordinary conical metal speculum, wipe off the mucus which covers the surface of the cervix with a little lint or sponge, and then place the leeches in the interior of the instrument. Over the external orifice of the speculum, spread a piece of linen, which depress with the finger into the speculum. In the concavity thus formed, place some lint or cotton, and then, with the forceps, push the whole towards the uterine neck. The linen carries the leeches before it, and presses them against the os uteri. On pulling out the linen and the lint, with which the speculum was plugged, in the course of about ten minutes it will nearly always be found that all the leeches have taken. They generally fill well in this situation, and the flow of blood is often considerable after they have fallen. . . .

"Six, eight, ten, or twelve leeches may be applied at once, according to the effect wished to be produced, and they should be re-applied several times, at intervals of five, six, eight, or ten days, when necessary, until the desired effect is produced. The leech punctures always heal readily. Their bite is not felt by the patient, unless they fix on the vagina, which they cannot do if the speculum is properly introduced. This instrument must be held by the patient, or the nurse, while the leeches are on. They generally fall off, but it is sometimes necessary to bring them away, after they have filled. . . .

"If all these measures, coupled with attention to diet (which must be light) and to the general symptoms, should fail to heal the ulceration, and to dissolve the induration; or, healing the ulceration, should leave the induration behind, the patient ought not on that account to be abandoned as cured, or as incurable, as is generally the case, nor should pessaries be used to support the prolapsed parts.

"*I have scarcely ever seen any good result from the use of* PESSARIES. They are, I believe, in the great majority of cases, a lame, impotent, irrational means of treating the disease against which they are directed (prolapsus); and are generally, if not always, productive of more harm than good. These remarks apply in full, at least, to all cases in which the prolapsus is the immediate result of hypertrophy of the cervix; in my opinion, by far the most numerous. Without entering at length into the pathology of prolapsus uteri, I may mention as my firm conviction, that the cases in which it is to be attributed to laxity of the lateral ligaments, to enlargement of the body of the uterus, and to laxity of the vagina, (its generally acknowledged causes), are not as one to ten compared with those in which it is *solely* occasioned by inflammatory induration of the cervix uteri. In such cases, pessaries increase, by their pressure, the local irritation, and are generally themselves the source of sensations even more disagreeable and painful, than those which they are destined to remedy." . . .

"It is our duty to cure the disease *entirely*, if possible. That it *is* possible, I hope now to be able to prove to the complete satisfaction of my readers.

"In order to modify effectually an engorged cervix, which has resisted all other modes of treatment, the indurated organ must be deeply cauterized, either with the Vienna paste, (quick-lime and potassa fusa), the plan adopted by M. Gendrin, or by the actual cautery, that followed by M. Jobert, (de Lamballe). The eschar which forms, in either case, is much deeper than that which is created when the fluid caustics are used. The inflammation which accompanies its separation is also much more intense, and generally propagates

itself to the entire cervix. The result is, that not only is the hypertrophied cervix diminished by the extent of the eschar which separates, but that the healthy inflammation set up in the chronically indurated tissues gradually melts them, as it were; so that often, on its subsiding, the hypertrophied cervix has regained its natural size. When this result is not obtained by the first cauterization, a second or a third seldom fails to reduce the uterine neck to its normal dimension. With the disappearance of the hypertrophy also disappear the symptoms which it occasioned; the uterus returns of itself to the position which it naturally occupies in the pelvis, and the cure is *really* accomplished.

"If the Vienna paste is employed, the following is the plan pursued by M. Gendrin, which I likewise follow. I must, however, state, that the Vienna paste, which is much used in France to produce deep eschars, is formed of equal parts of quicklime and hydrate of potassa, reduced to a fine powder, and intimately mixed. This powder should be prepared only when wanted, and kept in a glass-stoppered bottle. To be used, it is made into a paste, with a few drops of alcohol, and the paste is then spread over the part to be destroyed. Its action is very prompt, and neatly circumscribed to the part to which it is applied. A thin layer of the paste, for instance, will destroy the entire thickness of the skin in three or four minutes, and that with but little pain to the patient.

"When applied to the uterine cervix, a large and conical speculum must first be introduced, and the engorged cervix made to enter its orifice; or should the cervix be too voluminous, the speculum must be firmly pressed on the part which it is intended to cauterize, great care being taken not to enclose between the rim of the speculum and the cervix a fold of the vagina. About as much of the paste as would cover a fourpenny piece, a line in thickness, must be placed on a triangular piece of diachylon plaster, one end of which is inserted lightly in the cleft extremity of a small stick. The caustic paste is then carried, by means of the stick, to the cervix, and applied to the centre of the part comprised by the orifice of the speculum. With the long forceps, cotton is placed carefully all round the spot on which the caustic is applied, so as to completely protect the neighbouring parts; the stick having been withdrawn, the speculum is two-thirds filled with cotton or lint, which is firmly pressed against the uterine neck. The speculum is then extracted, the cotton which fills it being forcibly pushed back in the vagina with the forceps, as it is pulled away, so that the vagina remains thoroughly plugged. If all this is carefully done, it is impossible for the caustic to fuse, and to injure the parietes of the vagina. In about fifteen or twenty minutes, the cotton or lint must be gradually withdrawn by means of a bivalve speculum, and an eschar, of the size of a shilling, or rather larger, will be found where the caustic was applied. The vagina should then be washed out with a little tepid water, complete rest in bed enjoined, and emollient injections employed until the separation of the eschar, which takes place from the sixth to the eighth or tenth day.

"This mode of deeply cauterizing the cervix is attended with a little more perturbation of the system than superficial cauterization. Slight pain is sometimes felt at the time, but nothing of any consequence. Trifling hysterical symptoms are not unfrequent, but this I attribute more to the fear which the patient experiences than to any other cause. She sees that more importance is attached to the operation by her medical attendant than to superficial cauterization, and that unusual precautions are adopted, and is consequently often alarmed and agitated. The inflammation which accompanies the elimination of the eschar generally extends, as I have stated, to the entire cervix. Thence the symptoms of acute inflammation of the cervix. This inflammation may even extend to the uterus itself, and require to be treated by leeches to the hypogastrium, &c., but this is very seldom the case. In the immense majority of instances, the inflammation of the cervix is not sufficiently intense to require any other treatment at the most, than emollient injections, poultices to the abdomen, and hip-baths.

"During the three years I passed with M. Gendrin, at La Pitié, we cauterized at the least, in this way, one or two patients every fortnight, and I do not

recollect having seen a severe case of metritis, or indeed any other serious result. M. Gendrin himself has, however, I believe, met with a few cases of intense metritis after thus cauterizing the cervix. Sometimes, on the separation of the eschar, hemorrhage takes place. This hemorrhage, however, is nearly always very slight; indeed, I have never known the loss of blood to amount to more than a few ounces. It may, however, M. Gendrin has told me, be more considerable. I am not aware, nevertheless, that he has ever found it sufficiently intense to require any particular treatment. Were such an untoward event to occur, the hemorrhage might no doubt be easily overcome by injections with cold water, with a styptic solution, or, as a last resource, by plugging the vagina. M. Gendrin's experience of this mode of treatment has been very great, and he has resorted to it for many years. He has had under his care, at La Pitié, during the whole period, an uterine ward of nineteen beds, nearly always full of severe uterine cases.

"M. Jobert arrives at the same result as M. Gendrin, by another means. He cauterizes deeply the uterine cervix by means of the potential cautery. To effect this, he uses an ivory conical speculum, in order to protect the neighbouring parts from the heat, ivory being a bad conductor of caloric. He then extinguishes, on the part of the cervix which he wishes to cauterize, one, two, or three olive-shaped cauteries, heated to whiteness, according to the depth to which he wishes to destroy the tissue of the cervix. A deep eschar is thus formed, as by cauterization with the Vienna paste. Bnt little pain is experienced by the patient, and the eschar falls also from the sixth to the tenth day. Its elimination is likewise accompanied by considerable inflammatory reaction in the indurated cervix, which, generally speaking, rapidly diminishes, or melts under the influence of the revived inflammatory process.

"Sometimes, the effects of one cauterization suffice to bring the uterine neck to its natural size, sometimes two or more are necessary. M. Jobert does not confine cauterization with the potential cautery to the chronic cases of inflammatory hypertrophy, which do not yield to other agents, but often uses it as a means of treating, from the onset, ulceration accompanied by inflammatory induration. In such patients, however, he applies it more superficially. His practice has been much found fault with in Paris, by some of his colleagues, but from ignorance only. I have had great opportunities of witnessing it, and can safely say that, although bold, it is both safe and successful. I was his house-surgeon during part of the year 1840, and during the whole of my two years' residence at Saint Louis, followed, more or less, his uterine practice without ever seeing any bad effects ensue. On the contrary, many patients who had been years suffering were rapidly cured by this treatment. My friend and colleague, M. Loreze, who was M. Jobert's house-surgeon for three years, states in his thesis, that M. Jobert has applied the actual cautery to the cervix in several hundred cases without a serious symptom occurring.

"M. Jobert is the first surgeon who has regularly adopted cauterization with the potential cautery in the treatment of fungous ulceration and of chronic induration of the uterine cervix. Celsus recommended ulcers of the prolapsed uterus to be cauterized with the actual cautery, and other surgeons have proposed the same means of treatment, as, for instance, Percy and Baron Larrey, who are quoted by M. Loreze. It does not appear, however, that these suggestions had ever been really carried into effect previous to M. Jobert's experiments.

"This talented surgeon believes that cauterization with the potential cautery possesses peculiar advantages as compared with cauterization with the Vienna paste. But after enjoying extensive opportunities of judging the comparative value of the two methods, I have come to the conclusion, that they are completely identical in their effects, when properly used. M. Loreze, who may be considered to represent faithfully the opinions of M. Jobert, states, that it is difficult to appreciate rigorously the depth to which the Vienna paste will disorganize the tissues of the uterine neck; that instead of exciting in the neighbouring parts a favourable reaction, it weakens the vital forces by a stupefying influence; that it is difficult to apply, and, in liquefying, runs on the parietes of the vagina, thus giving rise to extensive loss of substance, which, on filling

up, contracts the parts. To the two first propositions, I can give the most decided negative, and that from my own personal experience. A practitioner who is accustomed to the use of the caustic may measure, to a nicety, the extent of the eschar which he wishes to form by means of the paste, and if a very small quantity only be used at first, he will gradually and safely acquire that knowledge, even if previously ignorant of its effects. So far, on the other hand, from the action of the caustic on the surrounding parts being a stupefying one, I have *always* seen reaction take place most freely, and with all the characters of healthy inflammation. As to the caustic running on the adjoining parts, such an accident is certainly possible in unskilful hands, but will never occur with a prudent, careful practitioner, who knows what he is about, and attends to the rules which I have laid down. Although my experience with it is considerable, I have never known the vagina even touched by the caustic. The same objection would also apply to the potential cautery, which I should be very sorry to see used for the cauterization of the cervix, by any but a skilful practitioner.

"M. Loreze subsequently states, that on the separation of the eschar formed by the Vienna paste, which only takes place after a lengthened period, the exposed surface often assumes an unhealthy character. This assertion is also *totally* unfounded. I have always, on the contrary, seen the eschars formed by the caustic separate in as short a time as those produced by the actual cautery, and found the granulating surface underneath perfectly healthy. I have not, indeed, *once* seen an unhealthy sore follow cauterization with the Vienna paste, and am at a loss to discover how my former colleague can have adopted such extraordinary notions respecting this mode of cauterization; he certainly cannot have *seen* the caustic used. I should not have reproduced these views, were it not that they constitute the chief objections that have been urged against cauterization with the Vienna paste,—objections which, as I have already stated, I am able to refute from my own experience of its efficacy.

"I may here remark, that the length of time which elapses before the separation of the eschar, depends, whatever the mode of cauterization, on the state of the parts cauterized, and on the depth to which the cauterization is carried. When the eschar is superficial, it falls, necessarily, much more rapidly than when it is deep. If the potential[1] cautery is used, the olive which terminates the instrument must be heated to a white heat, otherwise it might adhere to the tissues on being withdrawn, and the eschar might thus be torn away." . . .

"In several instances, when the induration has been very great, M. Gendrin has placed a small piece of potassa fusa within the lips of the os uteri, so as to produce a very large eschar, comprising the tissues immediately round the os to a great extent, and that without the os being subsequently in the slightest degree modified. Neither is there any danger whatever of rupture of the lower part of the uterus during parturition in a woman who has undergone deep cauterization of the cervix; as must be evident on the slightest reflection. In hypertrophy and induration of the cervix, it is not to the muscular structure of the organ—which, in the normal state, is excessively scanty, as we have seen,—but the cellular structure, which is the seat of chronic tumefaction. Consequently,—as would be the case in inflammatory tumefaction and induration of cellular tissue in other parts of the body,—an eschar, although of apparently considerable size and depth, in reality scarcely attacks the proper tissue of the cervix. M. Gendrin, moreover, has repeatedly known his patients to become pregnant, subsequently to deep cauterization of the cervix, even when it has been resorted to three or four times, and yet their labours have taken place without the slightest difficulty. Indeed, he very justly remarks, that the fact of the chronic hypertrophy of the cervix having been dissipated, must tend very much to facilitate parturition, by rendering the dilatation of the os uteri easier.

"As in superficial cauterization, deep cauterization of the cervix does not in any way interfere with menstruation, except inasmuch as it facilitates its occurrence by diminishing the state of uterine disease, which is the cause of the

[1] The term *potential* seems to be here, as well as in the preceding paragraphs, used, from an oversight, in place of *actual*.

irregularities which I have stated generally to exist, when the uterine neck is ulcerated or engorged. It is as well, however, to defer cauterization until after the menstrual flux, when the latter is expected, lest the uterine congestion should increase more than is desirable, the reaction that follows.

"To sum up: I firmly believe that chronic induration and hypertrophy of the cervix uteri, the result of inflammation and ulceration, will often be found incurable by any other means than excision or deep cauterization. Excision ought, I believe, to be excluded, owing to the severe hemorrhage which follows, and the danger which consequently attends it. Deep cauterization being resorted to, I prefer, in most cases, the Vienna paste to the potential cautery, but merely because it alarms the patient less, and has less the appearance of a formidable operation. I have had such extensive experience of both agents in the Paris hospitals, that I think myself fully warranted in stating, that in the hands of careful and intelligent practitioners there is no more danger in resorting to deep cauterization of the cervix, than in performing any other of the minor operations of surgery. I have also seen so many miserable women, who had suffered for years under engorgement of the neck of the uterus, (some of whom had all along been under treatment,) relieved and cured by deep cauterization alone, that I have no hesitation in recommending its adoption to the attention of my professional brethren.

"It must not, however, be forgotten, that cauterization of the cervix, as above described, is *an operation*, and like *all* operations, surrounded with dangers; that, consequently, it must neither be lightly undertaken nor lightly carried through." Pp. 167-188.

"Case.—*Chronic hypertrophy and induration of the cervix.—Deep cauterization with Vienna paste.—Cure in four months.*—On the 2d of May, 1842, a young woman, named Fanny L——, aged twenty-three, wife of an upholsterer, residing in the Place du Carrousel, entered the Pitié under M. Gendrin. Of small stature, but rather of full habit of body; she bore the traces of suffering in her countenance; her complexion was pale and rather sallow. She stated that she was married at the age of eighteen, and had two full-grown children in the first two years of her marriage. The first labour was natural and easy, the second was rather tedious, and was followed by an attack of inflammation of the uterus, which obliged her to remain in bed nearly three weeks. She did not attempt to suckle her child. The menstrual flux did not return until three months after delivery, and was then accompanied by violent pains. From the time she left her bed after the illness which followed delivery, until her admission into the hospital, she was never free from hypogastric and lumbar pains, from bearing-down sensations, carried to such an extent as to render walking painful, and from leucorrhœal discharge. Six months after her confinement, she applied to a medical practitioner for advice. He examined her, and stated, that she was labouring under ulceration of the neck of the uterus. She was treated by him for several months, and at last dismissed as cured. The treatment consisted in superficial cauterization every week or ten days, hip-baths, rest on a sofa, &c. Although told she was cured, she still felt the bearing-down sensation and the lumbar pains; the leucorrhœal discharge also soon returned. In the course of the following year, she applied to another medical man, was again told that she had ulceration and engorgement of the neck of the womb, went through pretty nearly the same treatment as before, and was again dismissed as cured, although still suffering from prolapsed uterus. The old symptoms gradually returning, she applied to M. Gendrin, who admitted her into his service, where she came under my care, as I was then his house physician.

On examination by the toucher, I found the neck of the uterus as voluminous as a small egg, exceedingly hard and resistent, but perfectly smooth and equal, occupying the lower part of the vagina, within two inches of the external orifice. The os was open, and presented a soft velvety sensation. The vagina was lax, and appeared to have lost its natural contractility. Pressure on the engorged cervix was not painful. The finger on being withdrawn was slightly tinged with blood and muco-pus, but the odour was not offensive. No increased heat of the parts. Not much retroversion. On examining with the

speculum, the cervix was very soon reached, but was too voluminous to enter even into the largest conical speculum. Two-thirds of its volume was formed by the anterior and superior lip. Around the os was an ulceration nearly the size of half a crown, covered with muco-pus. All the symptoms previously enumerated were present. Abundant leucorrhœal discharge, severe pain in the loins and hypogastrium, but principally in the former. Dragging and bearing-down sensation so severe, that when she walked she said she felt as if the womb would fall out of the pelvis. As might be expected, after suffering so long, she was labouring under severe dyspeptic symptoms, palpitation, cephalalgia, constipation, loss of strength, &c.

"She was ordered to remain permanently in bed, and eight leeches were applied to the cervix uteri; tepid hip-baths twice a-day, and emollient injections, three or four times a-day, were also prescribed. Light but nourishing diet; emollient enemata when required. The leeches bled profusely, and were re-applied four times, at an interval of six days. In the interval of each application the ulcerated surface was touched with the nitrate of silver.

"Under the influence of this treatment, the lumbar and hypogastric pains rapidly diminished; as also the leucorrhœal discharge. On the 20th of June, the ulceration had nearly healed, and the size of the indurated cervix had diminished by about one third. For some time previous, however, all further diminution in its volume had ceased. The surface had partly recovered its natural hue. No sensibility whatever on pressure. Texture still as hard and resistent as ever, perhaps more so. The entire uterus had risen considerably in the pelvis. As soon, however, as the patient began to walk, the hypertrophied cervix fell, dragging down the uterus, and gave rise to the old sensations of bearing down, although not to the same extent as on her admission. The general health was much improved. She had evidently arrived at the same condition as when dismissed as cured by her former medical attendants; in a shorter time, however, because, in all probability, the treatment had been rather more energetic, and more carefully followed up. At the same time, it was clear, that if discharged in this state, the prolapsus of the still indurated and hypertrophied cervix would soon become as great as ever, and bring with it a return of the local superficial inflammation and ulceration, so that in a few months she would again be in the same state as when the treatment began.

"Under these circumstances, it was determined to resort to cauterization with the Vienna paste. A small portion of the paste was therefore applied to the anterior lip of the engorged cervix, in the way described, and the vagina was plugged with lint. Twenty minutes afterwards I extracted the lint, and found that an eschar had formed, a little larger than a shilling. The vagina was washed out with tepid water, and the patient told to remain quiet. She experienced but little pain. On the sixth day, on examining by the toucher, the neck of the uterus was found rather hot and swollen. The inflammation which accompanied the elimination of the eschar had evidently propagated itself to the rest of the tissue of the cervix. On the tenth day, the speculum was applied, and the eschar was found to have separated, leaving a circular ulceration covered with healthy granulations. The entire neck was voluminous and very red, rather sensible on pressure. The cervix gradually diminished from that time for a week or ten days, when it ceased to decrease in volume. Emollient injections only were used, and the artificial ulceration was slightly touched with the nitrate of silver once a-week.

A month after the first cauterization, the cervix, which was considerably less in size, but still hypertrophied and indurated, was again cauterized with the Vienna paste in the same manner, with a like result. Two months and a half after the first cauterization, and four months from her admission, she was discharged, perfectly cured.

The cervix uteri was not larger than in a healthy person, and presented no induration. The ulcerated surface was perfectly healed. The os uteri was quite free and open, the cicatrization having produced no obliteration or retraction. All pains had disappeared, as also the sensation of bearing down on walking, and the leucorrhœal discharge. The uterus had ascended in the pelvis to

its natural position. The general health was also very greatly improved. Her two last menstrual periods had passed over without being attended with the usual pains, and the flow of blood was easy and abundant. She was, indeed, quite another woman." Pp. 189—195.

The great importance of Dr Bennet's work consists in the clearness with which he describes the causes, effects, and treatment, of non-malignant and non-syphilitic ulceration and induration of the neck of the uterus. We are not aware of any preceding author who has so well described these affections, in their slight and incipient forms;—but every page of the book is good, and eminently practical. As will ere now have occurred to the reader, the subject is the same as that treated of by Sir Charles M. Clarke,[1] in his valuable work, entitled, *Observations on the Diseases of Females attended by Discharges*, illustrated by copper-plates of the diseases, in two parts, London, 1821. When it appeared, it was deservedly hailed with applause; and it has long been a source of honour to the author, and of benefit to many a sufferer. Sir Charles was in hopes that the different diseases which give rise to discharges might be traced by an accurate examination of those discharges. Dr Bennet, on the other hand, has clearly shown, that what Sir Charles Clarke attempted to effect by a closer examination into the nature of uterine and vaginal discharges —*i.e.*, to ascertain the diseases which caused them—may be determined by an examination, not of the discharges, but of the source of the disease itself.

We have now said enough to satisfy our readers, that Dr Bennet's admirable Treatise ought to find a place on the shelves of every practitioner. We will, therefore, only add, that so far as we know and believe, it is the best work on the subject of which it treats.

Du Hachisch, et de l'Aliénation Mentale; Etudes Psychologiques. Par J. Moreau, (de Tours), *Médecin de l'Hospice de Bicêtre, Membre de la Société Orientale de Paris.* 8vo, pp. 431. Paris: 1845.

From Hachisch, or Indian hemp, as our readers are aware, the eastern sensualist prepares certain wonderful potions and conserves. The herb, when taken in these forms, or when smoked, induces effects upon the mind, which appear to M. Moreau to resemble various forms of insanity. Under this impression, and with the view of throwing light upon this obscure department of pathology, he resolved to observe and record the mental phenomena caused in himself by the famous drug.

"Numerous important gaps," says M. Moreau, "still exist in the history of the symptoms of mental alienation. Many pathologists, with the exploring scalpel in hand, have sought after the material causes of insanity, looking in the depth of organs for the grain of sand which has been deranging the intellectual machine, hoping to get an explanation of the disorders of the mind, by examining the disposition of the molecules of the brain. Most of them have carefully described the infinitely varied symptoms presented by the numerous patients amid whom they have lived; but I am not aware of any writer on insanity, who has given us his *personal* experience—a description of his own perceptions and sensations. Something under this head may therefore still remain to be done. Besides, it is admitted, that mental therapeutics are pervaded by uncertainty. In unfolding the primitive fact, the primary functional lesion, whence flow all forms of insanity, as streams from one source, I hope to be able to present some useful information regarding the means of cure." Pp. 31, 32.

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[1] Dr Bennet does not mention Sir Charles Clarke's work; we presume, simply because it was not within the scope of his work to give the literary history of his subject, which would almost invariably have led him into much controversial digression.

We strongly recommend the work of M. Moreau, as original, instructive, and highly entertaining. M. Moreau is known to be an accomplished practitioner, and an enthusiastic cultivator of psychology.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

On the Spurious Pulmonary Melanosis of Miners. By Dr Brockmann, Clausthal.

[The "Black Phthisis" of colliers, described by Dr Makellar in the present number, (p. 645), is unquestionably the same affection, as that considered in the following memoir. The disease evidently depends upon the *way in which the mines are wrought and ventilated*, and *not upon the nature of the minerals.* Dr Brockmann does not specify the nature of the mines which he refers to; but we presume, that they are the silver and lead mines, so common in the district where he resides.—"Clausthal is noted for its mines of lead and silver, which are considered the richest in the Hartz mountains. The silver veins are embedded in the fissures of a grey-wacké rock, which also contains the remains of vegetables and marine animals."—*Maltebrun.*]

It is well known, that under the name of *Miner's Consumption*, very different pathological states have been described. Some have restricted the term to the asthmatic affection, arising from the inhalation of fine metallic particles; whilst others assign to it a more extended meaning, under the name of *Asthma Montanum;* and a third class, disregarding the asthma, comprehend under the term, the pernicious effects produced on the frames of those who work among mineral ores. These differences in the nomenclature have probably been the cause why an accurate estimate has not always been made of the effects of a lengthened sojourn in the mines, and no accurate account given of the diseases comprehended under the name of miner's consumption, or *Bergsucht.* Most writers agree in this point, that the lungs are the principal seat of the complaint. If the nature of the work in the mines, however, is to be regarded as the sole cause of the disease, then, there must be as many varieties of it, as there are varieties in the work; and, consequently, the Oberhartz district will have its peculiar variety of what, in our systematic works, is known under the name of *Melanosis of the Lungs.*

Post-Mortem Appearances.

The anatomical changes announcing melanosis of the lung may be divided into essential (wesentliche), accidental (zufällige), and secondary. The essential consists entirely in a pitch black colour of the parenchyma of the lung

throughout its whole extent, involving not only the air, blood, and lymph vessels, but also the connecting cellular tissue, the nervous substance, *pleura pulmonalis*, and bronchial glands. In these cases, notwithstanding, as a general rule, the substance of the lung remains perfectly normal. This blackening of the substance of the lungs offers the greatest varieties, both as to extent and intensity. I have ascertained four varieties.

In the *first* stage of the disease, not necessarily mortal, and only discovered when the patient dies of another complaint, the melanosis exhibits itself in scattered patches, generally circular, and more rarely in small streaks, running to form patches of a dark brown (sepia) colour. These are perceived on the surface of the lung, as well as in the tissue of the organ, which is otherwise quite healthy. In the *second* stage, these patches are several inches in circumference, and are blacker—like the colour of Indian ink; they may involve an entire lobe, without the rest of the lung appearing to suffer, although from one or two dark brown spots scattered here and there, it may have a marbled appearance, peculiar to the first stage. A dark fluid may be squeezed from lungs in this state. They crepitate, however, like healthy lungs, and are not specifically heavier than natural. In the *third* stage, the melanotic colour is spread over the whole tissue of the lungs; but it is striated here and there with streaks of a lighter or ash-grey colour, a few lines broad. The melanotic groups are also surrounded with a clear circle, which gives the lungs a very peculiar appearance. Besides this, there are found in the true melanotic portions of the lung, individual spots of a clearer or browner colour. In this stage, the blood-vessels are generally less affected, than the other textures of the lung. The tissue and specific weight of the lungs are still normal. In the *fourth* stage, the lung, in all its tissues, exhibits a pitchy black mass, which, when cut, allows a black fluid mixed with froth to escape; and thus it is evident, that, notwithstanding its apparent degeneration, it still remains permeable to the air. No change of texture in the lungs, as a general rule, is yet found, at least, it bears no proportion to the change of colour, and is usually confined to a certain degree of friability (sprödigkeit) of the substance, without its being in a state to be easily torn. The specific weight is still normal.

From repeated chemical experiments on melanotic lungs, undertaken with the greatest care, by Dr Bethe, apothecary to the mines, it is anew confirmed, that the black colour in melanosis is produced by a species of carbon pigment (kohlenstoffartiges pigment), as well as that the pigment of true melanosis is of an animal, whilst that of the so-called spurious melanosis is of a vegetable origin; and that both may be present in the same individual at one and the same time. Lastly, that the melanotic pigment, in its chemical relations, has a very striking analogy to the black pigment of the eye.

To the accidental appearances in melanosis of the lung belong all the superadded changes of texture which occur, and among which may be ranged, (a) miliary tubercles. This accidental change of texture generally appears pure and simple, and usually the tubercles are widely segregated,—a circumstance which distinguishes them from the usual tuberculous affections of the lungs. Their usual seat is in the lower rather than the upper part of the lungs. They are seldom softened, and in general have the dark melanotic hue of the first and second stage; all of which circumstances sufficiently distinguish them from the usual pulmonary tubercles. (b) Next we find schirrous growths, of a colour as dark as the surrounding melanotic tissue of the lung, with a surface rough, uneven, and very hard. Then (c) there are cavities of the size of a bean, which are usually filled with a black pulp-like mass. These, however, occur seldom. Whether the above-mentioned accidental appearances originate primarily with the melanosis, or are to be regarded as secondary products of disease, the author is not prepared to determine. Their appearance is comparatively so rare, that it can scarcely be thought they have any connection; and they produce no important modification in the symptoms.

Among the secondary appearances of melanosis in the lung, the following, which do not affect the essential nature of the disease, may be regarded as *constant*. (a) *Adhesions of the pleuræ* to the neighbouring membranes. This may

arise partly from the frequent respiration and the consequent excessive expansion of the lungs, and also partly from an arthritic affection of the membranes which frequently accompanies melanosis of the lungs. (b) *Collections of fluid* in the sac of the pleuræ, and still more frequently in the pericardium. No trace of the black pigment, however, is found in this exudation. (c) *A softened heart* loaded with fat, the more surprising, as the rest of the body is entirely deprived of fat, and reduced to a perfect skeleton. (d) *An abnormally small liver*, without a trace of melanosis. (e) The whole of the veins of the lower part of the body are distended with thick black blood.

SYMPTOMS.

The Symptoms vary according to the stage of the disease. In the *first* stage, there is no local, functional, or general feature by which we can certainly ascertain that the disease has commenced. Probability is all we can reach. In the *second* stage, the disease is more obvious. And first, there is a change in the expression of the countenance. To a fine blooming appearance, which, perhaps, the patient previously had, there has succeeded a dark yellowish cast, a change which gradually spreads over the whole body. For some time the patient may have remarked a gradual loss of strength; and now he complains of want of appetite, and disordered digestion; and more particularly of shooting pains of the extremities, back, and muscles of the chest. Cough likewise supervenes, which may either be quite dry, or at most, accompanied with a little pure mucus. There is also a greater or less degree of oppression, accompanied with palpitation of the heart, not only after a severe fit of coughing, but after every exertion of the lungs. As yet no local deviation from the normal condition is seen, on examination of the chest, by percussion or auscultation. The patient generally lives in this state for several years, without paying much attention to the oppression he suffers, becoming, as it were, habituated to it. The disease meantime passes into the *third* stage. The features of the patient now become more and more changed and deteriorated, and betray a deep melancholy, the colour of the face, which had been hitherto of an earthy hue, becomes blackish; as also the cornea, whereby the eye loses its lustre. The appearance of the patient becomes still more frightful, from the great loss of flesh, and the dark skin hanging loose on his bones. The fat not only seems to have disappeared, but the muscular substance also; the whole frame being shrivelled. The patient complains of increasing weakness, diminished appetite, flying pains, often concentrated at the pit of the stomach, and coughs much. The expectoration is, for the most part, difficult, and consists of masses of mucus, either greyish, or tending to a black colour. A black streak is frequently observed running through the whitish mucus; one half of it may be white, the other black, or occasional black points may be observed throughout the mass, and sometimes, though rarely, blood. Dyspnœa is usually connected with the cough. It now begins to tell upon the patient, and is so characteristic, that it has been named by the sufferers *asthma metallicum*. The disturbance of the digestive organs increases with the disease; the appetite is entirely lost, the tongue is covered with a white fur, there is an oppression at the stomach after a full meal, frequent eructations, and a tendency to constipation. The distress of the patient becomes increased in consequence of the shooting pains in the muscular system. They are more severe during the night than in the day, and are influenced by changes of weather; whilst for weeks and months they may be absent, at other times, they rise to the most distressing height, after which they are generally followed by feverish re-action. In the *fourth* and last stage all the external appearances indicate the near approach of dissolution. The face and members become bloated, the feet greatly swollen; and the patient is confined to bed. The dyspnœa meanwhile, from effusion into the chest and pericardium, becomes so severe, that the patient cannot maintain the horizontal position, the expectoration becomes copious, consisting of a black, inky, or ash-grey coloured fluid, sometimes of mere masses of mucus streaked with black. It is remarkable that the effusion rarely extends to the abdomen, and even when it does to a great extent, it is never of long continuance, and often

entirely disappears in the course of a few weeks. Whatever may be its degree, fever is an exceptional accompaniment; and, as a general rule, it may be said to be excited only by the muscular pains. On the other hand, hectic fever appears a few weeks before death, an indication that dissolution is near, but it is never accompanied with colliquative sweats or diarrhœa. The longer the disease continues—and in general years elapse ere death ensues—the more clearly are periodical exacerbations and remissions perceived.

Diagnosis.

[There follow here some remarks on the diagnosis between this and other chest diseases, which, however, we need not specify.]

What is the essential nature of the pulmonary melanosis of miners?

Is it to be classed as true or false melanosis? Is the change of colour, characteristic of the disease, produced by an internal organic process, or by the inhalation of carbon from the surrounding atmosphere?

According to Mr Craig, who takes the most comprehensive view of the subject, and regards it both in a physiological and pathological point of view, melanotic deposits in the lungs appear under three different forms:—1st, As healthy black matter of the lungs; 2dly, As a diseased secretion; 3dly, As foreign matter.

The first of these conditions, as being no way prejudicial to health, does not come within the domain of pathology; the second is regarded justly as true melanosis, *melanosis vera*, and the third as spurious melanosis, *melanosis spuria*. Carsewell designates true melanosis as a constitutional affection, and considers the false as produced by some local disorder. Bondy, on the other hand, designates *melanosis vera* as a deposition of black matter into a peculiarly formed tissue, and, under *melanosis spuria*, comprehends all the other forms which are found in organs exhibiting no other deviation from the healthy state. Under which of these classes, then, are we to place the melanosis of the lungs of miners? According to Bondy's division, it comes under pseudo-melanosis, as structural change is no way essential to it. According to Carsewell's views, it is a combination of melanosis vera and spuria.

On carefully considering the matter, I think, that the black colouring matter found in the lungs does not depend solely upon carbon introduced from the exterior; for though, as proved by chemical analysis, part of the pigment consists of inhaled carbon, present in the air of the mine, from the large quantity of the deleterious smoke of gunpowder, yet I am satisfied, by numerous researches, that the principal component of the melanosis now in question, consists of an organic pigment deposit, and on the following grounds. (a.) From the chemical researches instituted by M. Bethe, it is incontestibly proved, that a part of the black pulmonary mass consists of vegetable carbon, and must have been derived from the exterior in the shape of carbonaceous dust; but that there is another portion, which possesses all the characters of animal carbon, and must have been formed in the lungs themselves. (b.) If the parenchyma of the lungs were filled with carbonaceous dust, their specific weight ought to be increased. But this is not the case; and a completely melanosed lung swims in water, both as a whole, and when cut into parts. (c.) If the carbonic matter in the lungs be introduced from the exterior, it is remarkable that its characteristic appearance, viz. melanotic expectoration, should continue, when its immediate cause has long ceased, and when the patients have been, for a considerable time, removed from the mine. How can this be explained, unless we assume that a previous vital process is going forward in the interior of the organism? (d.) If melanosis of the lung be produced solely by carbonaceous matter introduced from without, it should moreover be formed in all those who live in similar circumstances. Daily experience, however, is entirely opposed to this; and it is a fact, that miners have worked for a long time in unhealthy mines, and yet remained entirely free from the complaint, whilst others, working in much more healthy mines have been seriously affected with the disease. This would be quite impossible if the melanotic deposit were entirely dependent on external conditions, and there were no special indi-

vidual circumstances favourable to its formation. (e.) If miners' pulmonary melanosis arises entirely from the inhalation of carbonaceous dust, why is it not observed in other workmen who are as much, and even more exposed to its influence, as for instance, smelters and colliers? (hüttenarbeitör and kehler). (f.) The carbonaceous matter is chiefly found in those mines where gunpowder is employed in blasting, consequently it does not approximate to its attenuated state in the gases; were it therefore inhaled in quantity sufficient to explain the black colour of the lungs, it ought also by its mechanical irritation to produce inflammation in the delicate mucous membrane of the organs. But there are no symptoms of this during life, nor any traces of it after death. (g.) But apart from this absence of irritation, threatening disorganisation, which the inhalation of a certain quantity of carbonaceous dust into the tissue of the lungs would infallibly produce; and granting, moreover, that carbonaceous matter in certain quantity might be removed from the mucous membrane of the lungs by expectoration, it is alleged, that after its introduction into the air (blood?) vessels, it may spread throughout the lungs, and freely communicate the black colour, which, as already explained, is the characteristic sign of the complaint. But to this it may be answered, that if the carbonaceous molecules are indeed so small, that they can be absorbed by the vessels of the lungs, and so introduced into the general circulation, how happens it, that the black colour is not found in other organs? why should it be entirely confined to the pulmonary tissues? From what, then, is here stated, it appears that the carbonaceous dust does not act on the lungs as a mechanical irritant. (h.) Again, it may be alleged, that the carbon operates in another way, viz., by obstructing the minute air vessels, and thus interfering with their function of absorbing the necessary quantity of atmospheric air, and so acting injuriously on the normal action of the lungs. But on dissection, no trace of any such obstruction is ever found. In what way, then, does the absorbed carbonaceous matter act so as to produce so serious a disease. The appearances and course of the disease unquestionably declare it a consumptive disorder,—a true PHTHISIS MELANOTICA,—differing, however, from most varieties of phthisis in this, that in it no destructive root (heerd) is to be found, from which the symptoms germinate. The few textural changes that occur, afford no sufficient ground for the explanation of the great disturbance which takes place both in animal and organic life. The disease to which it presents the greatest resemblance is *marasmus senilis*, in which the patient wastes away, without there being any local cause to account for it. We can by no means explain this marasmic state, unless we admit, that the change of colour in the lungs has its rise in another and deeper source, affecting the whole animal economy, and differing from the introduction of carbonaceous matter into the system.

This organically formed pigment of the lungs, consisting chiefly of carbon, has its origin in the composition of the blood, in consequence of a preponderance of *venosity*, and the whole appearance of those suffering from melanosis of the lungs distinctly exhibits this excess of venosity, which depends on three causes.—1st, On air deficient in oxygen. The atmosphere in which the miners work from eight to ten hours daily, five days a-week, is deficient in oxygen, and contains carbonic acid in such quantity as to be prejudicial to health; whilst, at the same time, it is impregnated with fine particles of dust.—2d, On highly carbonised nourishment.—3d, On incomplete change of the blood from deficient exercise, &c. A removal of the carbon of the blood, by the healing power of nature is hardly possible, for the miners immediately return to their homes from the mines, and spend but little time in the open air; any spare time they have being spent in their over-heated small dwellings contaminated with all sorts of vapours. They generally also allow their wet clothes to dry on their bodies:—the evaporation from which still more deteriorates the air of their huts. The liver, moreover, cannot vicariously perform the functions of the skin and lungs, and decarbonise the blood; for unfortunately, in consequence of the occupation of the miner, this viscus is generally found of diminished size, because while at work, he is usually in a bent position; hence

the liver is compressed, and prevented from acting freely. Pulmonary melanosis of miners may, at the same time, be regarded as a critical effort of nature to deposit the carbon in a destined organ, and so free the blood of its noxious load; and if by this means the life of the patient is prolonged—a result obtained so long as the lungs are capable of receiving carbon—still the crisis is incomplete, and, as the result shows, also unfortunate, because the blood is only partially relieved of its excess of carbon, and apart from the ever-increasing disturbance in the functions of the lungs themselves, still remains sufficiently carbonised irreparably to endanger life. The rheumatic affection so constantly accompanying the disease is likewise to be attributed to the excess of carbon in the blood.[1]

I regard the following as predisposing causes of melanosis of the lungs among the miners. (*a.*) The predominance of carbon in the healthy organism. I never met with the disease in a fair person. As a general rule, the disease affected those only of an atrabiliary constitution, (dark hair, brownish colour of the skin, and a more or less icteric hue of the sclerotica); in such constitutions the disease appears to be hereditary. The darker the hair and skin, the greater the predisposition. (*b.*) Want of cleanliness of the person. (*c.*) Thorough wetting and cooling of the body. (*d.*) Deficient nourishment. (*e.*) Immoderate use of spirituous liquors. (*f.*) Depressing influences, as excesses *in Baccho et Venere*. (*g.*) Deficient activity of the respiratory functions outside the mine, in consequence of neglected sojourn in the open air. As already mentioned, other causes are to be found in the loaded state of the air of the mine with carbonaceous dust, and carbonic acid.

Prognosis.

The prognosis is bad, so long as the patient is subjected to the noxious influences; when placed in more favourable circumstances, a cure may be effected, in the first and second stage, by the free enjoyment of fresh air. In the third stage, no complete cure can be looked for, but life may be much prolonged; as even in the fourth stage.

Prophylactic and Curative Treatment.

In regard to *prophylactics*, the miner, notwithstanding all the improvements of modern times, can scarcely, if at all, be protected from the noxious influences of the atmosphere to which he is exposed; at the same time, the work should be more judiciously distributed, and individuals whose appearance betrays a predisposition to the disease, should not be employed in places where the air of the mine does not communicate with the external atmosphere, and where it is overloaded with the smoke of gunpowder, decayed wood, or carbonic acid. When this is not possible, the miner should not be too long employed in such places, and should be much in the open air. He should also carefully avoid all those influences which have been detailed above, as predisposing causes of the disease. Without compliance with these conditions, every remedy is abortive.

The first indication of *cure*, is change of work, and a lengthened sojourn in pure air. The following indications should also be attended to.—(*a.*) To add oxygen artificially to the hyper-carbonised blood; (*b.*) To remove the overplus of carbon in the blood, either directly or indirectly. In regard to the former of these, I have never ventured on the direct application of oxygen to the lungs, because these organs have generally been in an irritable condition, and have contented myself with recommending the free use of pure atmospheric air, and bathing. I have also endeavoured to increase its amount therapeutically, by the exhibition of oxydised preparations of iron, which I have found most beneficial in this complaint; nor has their use been followed by any bad effects, as frequently happens in other diseases of the lungs. I endeavoured to ac-

[1] Is this the cause of the rheumatic pains in fevers? Was excess of carbon in the blood the cause of the severe muscular and arthritic pains of convalescence, in the Edinburgh epidemic of 1843? The "venosity" of the blood in that epidemic was certainly very notable.

complish the second indication, chiefly by alkalies, especially the carbonate of soda, but the results were by no means satisfactory. Small doses of calomel had no better effect. It appeared, however, to act beneficially when combined with jalap, especially in the first stage of the disease.

The treatment is modified according to the different stages, as follows:—In the first, although the physician is seldom consulted, I recommend, besides the already mentioned hygienic measures, especially warm or cold baths, according as they are borne, and, under certain circumstances, an emetic, and a purge of calomel or jalap. In the second, the same treatment on a more extensive scale; and, in addition, carbonate of soda, and other alkaline remedies, but more especially the *Extract. aloes. aquos;* Rhubarb, *Cost. Ramni. Frangulæ*, (especially extolled); and in summer, the use, four times a-week, of the artificial Carlsbad water, in so far as the strength of the patient permits. In the third, I have seen the most astonishing effects from the continuous use of warm baths, and the artificial Carlsbad water, and after the cure, and the continued use of one of the above-named extracts, chosen according to the individual peculiarity of the case, I have frequently, after a time, had the felicity to see before me a renovated man. Preparations of iron are often here of the most decided service. Bleeding, and the so-called expectorants, on the other hand, are never of the least use. Derivative measures are only useful in relieving the rheumatic pains of the chest. The severe fits of coughing sometimes also require palliative measures. In the last stage, nothing can be done, but by mild restoratives, and a strict attention to diet, to endeavour somewhat to prolong life, and strengthen digestion by bitters. At this period iron is especially useful, particularly the *Ferrum Iodatum.* The *Tinct. Ferri pomat.* and the *Tinct. Nervin. Bestusch.*, are also of signal benefit, and prolong life for a considerable period. The painful symptoms at this period, often require numerous remedies, and the daily use of opium or morphia. Anasarca generally disappears speedily under digitalis, squill, and other diuretics, which act by producing smart diarrhœa. When structural change of the lungs occurs along with the melanosis, little relief can be afforded. All that can be done, is to alleviate some of the more distressing sympathetic sufferings; the dyspnœa, however, continues most obstinate, and slowly destroys the patient.—*Hannoverische Annalen*, as quoted in *Neumeister's Repertorium* for December 1844; from which latter we have very slightly abridged the above.

Anatomical and Pathological Researches regarding Collections of Carbon, produced during Life, in the Respiratory Organs of Man. By Natalis Guillot.

The author only treats of the black matter met with in the respiratory organs of the aged, which is produced simply as the result of their increasing years; and the origin of which, moreover, cannot apparently be referred to the occupation of the individual.

The following are his conclusions:

1. The black colouring matter of the lungs of old people is not formed by an exhalation of blood (*Bréschet*), nor by blood globules (*Trousseau*); it is not a product of secretion (*Trousseau, Andral*); it has no analogy to the pigment (*Heussinger, Trousseau*); it is not caused by the smoke of lamps (*Lænnec, Graham*); it has not even a carbonaceous appearance (*Bérard, Bourgéry*).

2. This black colouring matter is carbon,—not the result of the operation of chemical re-agencies however, but is carbon deposited naturally, during life, in the tissue of the respiratory organs.

3. The increase of this carbon may occasion morbid phenomena appreciable to the physician, especially in the more advanced periods of life.

4. That this matter may alone cause death in old people, by rendering a greater or lesser portion of the lungs unfit for circulation and respiration; that in many of the acute and chronic affections of the chest in old people, the presence of these carbonaceous collections increases the severity of the disease, and may sometimes account for their fatal termination.

5. The presence of this carbonaceous matter greatly influences the modifications which tubercle undergoes. It may, indeed, be affirmed, that in the lungs of most of those in whom phthisis has been either modified or arrested, there will be found after death—if they have reached an advanced age—a more or less considerable carbonaceous deposition.— *Vide* M. Guillot's valuable Memoirs, in the *Archives Générales de Médecine*, for January, February, and March 1845.

MIDWIFERY.

Cauterization of Intra-Uterine Polypus. By M. Lisfranc.

A polypus, partly or wholly contained in the uterine cavity, may give rise to serious hemorrhage, when neither ligature nor excision are possible. In such cases, M. Lisfranc recommends cauterization of the surface of the polypus, should the os uteri be sufficiently dilated to allow of it. He states, that the hemorrhage from uterine polypus is, in many cases, dependent on the vascular membrane or net-work, which covers the tumour, and adheres very strongly to it. This adhesion is so intimate, as scarcely to admit of the separation of the membrane from the subjacent tissue, which is white, and presents no trace of vessels. The membrane is nearly always ruptured, and thus are formed ulcerations on the surface of the polypus, whence often proceeds a very considerable flow of blood. The ulcerations generally occupy the inferior surface of the polypus. The following is an interesting illustration of this plan of treatment:—

Case.—A young woman entered M. Lisfranc's service, labouring under uterine polypus. She had lost a great quantity of blood, was perfectly blanched, and in a state of excessive weakness. The polypus had dilated the os uteri to the size of a shilling, and appeared at its orifice. M. Lisfranc, not being able to operate, cauterized the surface of the tumour through the dilated neck, with the acid nitrate of mercury. No accident followed, and the hemorrhage was at once arrested. The constitution of the patient immediately began to rally, and she recovered health and strength rapidly. Six weeks later, the hemorrhage returning, the cauterization was repeated with the same result as before. Two months afterwards, the polypus was observed to descend half an inch into the vagina, and then to retreat into the uterus. This took place several times: at last, however, it descended freely into the vagina, when M. Lisfranc excised it. The third day after the operation, there being a slight show of blood, the patient was bled from the arm to three ounces, when the hemorrhage stopped. On the sixth day, it reappeared, but ceased on the same treatment being adopted.— *Gazette des Hôpitaux*, as quoted in *Lancet* for 26th July 1845.

Peritonitis following Examination for Uterine Polypus.

At a recent meeting of the *Société de Chirurgie*, M. Lenoir presented the uterus of a woman, 55 years of age, who had been suddenly seized with peritonitis, the day after an examination, by which the presence of an uterine polypus in the vagina had been ascertained. She had been labouring under hemorrhage for seven or eight months. The existence of the polypus was ascertained without the slightest difficulty. M. Lenoir intended to have operated on the following day, but was prevented by the development of peritonitis, which carried off the patient within eight days.

M. Malgaigne narrated a similar case. He was called to Versailles to see a lady who was affected with uterine polypus. He practised the *toucher*, and recognised, without the slightest difficulty, the presence of a polypus, which he intended to have extirpated. The following day, however, she was seized with peritonitis and died.— *Gazette des Hôpitaux*, as quoted in *Lancet* of 26th July 1845.

[When the parts are morbidly sensitive, examination by the toucher is al-

ways attended with more or less risk, and should, if possible, be delayed till this state has been removed, by rest and soothing treatment. Want of attention to this caution, a little accidental roughness in performing the toucher, or idiosyncrasy, are the causes of the occurrence of such cases as the above, which, though rare, teach a useful lesson.]

ORGANIC DISEASE OF THE UTERUS—PELVIC ABSCESS—SYMPTOMS OF PURULENT EXTRAVASATION INTO THE PERITONEUM. ABSTRACT OF A CLINICAL LECTURE BY DR O'FERRALL, M.R.I.A., delivered Feb. 14, 1845.

Catherine Bourke, aged 42, pale and emaciated, entered St Vincent's Hospital, 30th October 1844. She was married, and had borne several children; until a year ago, she enjoyed good health, but since that period, was subject to profuse leucorrhœa. During the last three months, she suffered from severe pain, and a sensation of burning heat in the lower part of the abdomen, which used to increase at intervals; this was accompanied by constant nausea, and occasional vomiting. Before admission, Dr O'Ferrall had detected extensive disease of the os uteri; the abdomen was universally tender to the touch, and a fixed tumour existed in the hypogastric region, extending from one iliac fossa to the other, but chiefly towards the left, and ascending to within two inches of the umbilicus; this tumour was resonant to percussion in some parts. While in the hospital, she presented symptoms of gastro-enteric irritation, nausea, thirst, epigastric tenderness, constipation, &c. She had cardiac palpitation; the pulse was usually 100, and weak. She continued in pretty much the same state until the 18th of December, when she was suddenly attacked with symptoms of collapse, the pupils became dilated, the surface cold; she was in a state of continual agitation; and the pulse could not be felt. She died 36 hours after the commencement of this change. Her mind wandered throughout, but she could be recalled with effort, so as to answer rationally.

Dr O'Ferrall was led to examine the condition of the uterus in this case, on account of the patient presenting the characteristic pains of organic disease of that organ, and the vaginal discharge being purulent. By the touch the os uteri was found to be extensively ulcerated, the base and edges of the ulcer remarkably hard; the neck of the uterus itself was considerably indurated and hypertrophied. There was no hemorrhage.

The symptoms which this woman presented, may be naturally divided into two periods:—*the first*, of twelve months, during which she had leucorrhœa, and other uterine symptoms; the *second*, of the last three months, when she was attacked with hypogastric pain, tenderness, swelling, nausea, and occasional vomiting, symptomatic of the pelvic abscess.

[*What follows was apparently spoken whilst the dissection proceeded.*]—The tumour detected during life, was produced by the pushing forward of the pelvic viscera, by an abscess situated in the posterior and inferior part of the pelvis. The position of the rectum, with regard to this abscess, was particularly worthy of notice, its sigmoid flexure being prolonged over the superior margin of the abscess towards the right side, from whence it passed downwards and backwards to the anus. It was this peculiar route of the gut which gave that resonance to portions of the tumour remarked in the history of the case.

They might perceive, that the uterus was enlarged; that the os, when examined from the vagina, was extensively diseased, and a mass of ulcerations and fungoid growths extended half way down the neck, while the cavity of the organ was healthy.

He would now show them where the pelvic abscess had burst, which, by its rupture, had produced the patient's death. The rent was between the uterus and the sigmoid flexure of the rectum, where it extended along the anterior and upper surface of the abscess; the peritoneum in this place was very much thinned, with a lymphy deposit on it; at one point it had given way, and through the opening thus formed, the pus had welled up into the cavity of the peritoneum.

It was worthy of remark, that the omentum was in two places adherent to

the walls of the abscess; this was easily explicable, by the height to which the abscess had extended, and the inflammatory process which was its cause.

He (Dr O'Ferrall) had been in the hospital at the time when the patient was attacked with the symptoms which ushered in the fatal termination; he therefore had an opportunity of studying them carefully. They much resembled those that are produced by sudden hemorrhage. They did not resemble those of perforation of the intestines, or of the gall bladder; there was no sudden attack of pain or tenderness; he was about to say, there was no rapid swelling of the abdomen; but he had known cases of perforation where no such swelling arose. However, the symptoms were not those of perforation, there was coldness of the surface, pulselessness, incessant jactitation, incoherency, but you could, although with great difficulty, fix her attention, and obtain rational answers; and then, when asked, she said she had no pain. Upon the invasion of the symptoms, Dr O'Ferrall felt the tumour, which did not seem to be diminished; but as the bladder was evidently full, he caused her urine to be drawn off by the catheter; after which, the tumour appeared manifestly sunken. Sir Philip Crampton recollects, many years ago, precisely similar symptoms exhibited by a person who died from the bursting of a psoas abscess into the cavity of the peritoneum.

About a pint of pus was found in the cavity of the peritoneum of Catherine Bourke, and upon pressing the pelvic tumour, in situ, pus continued to ooze up through the rupture.

This case is worthy of being borne in mind, *first*, as a mode of termination of chronic uterine disease not described in the systematic works; *secondly*, it is interesting as exhibiting symptoms produced by the effusion of pus into a serous cavity, more resembling those of internal hemorrhage, than of perforation; and *thirdly*, as exhibiting a form of abdominal tumour, consisting of normal parts, displaced, and thrown forward, by an abscess situated behind them.—Abridged from the *Dublin Hospital Gazette*, No. 3, March 15, 1845.

Diagnosis of Extra-Uterine Pregnancy.

By the previous history of the case, and the *rectal toucher*, a hypogastric tumour may often be ascertained to depend on extra-uterine pregnancy, if it really does. Through the rectum, the finger can detect a hard, uneven mass pressing down upon the anterior wall of the gut. This is formed by the head or feet of the fœtus: and it often happens that the rectum is thereby perforated. In a woman at present in the St Louis, M. Jobert has diagnosed extra-uterine pregnancy in accordance with these facts, even although the rectum retains its integrity. He has some intention of operating.—*Annales de Thérapeutique*, for July 1845.

Placenta Prævia: Extraction of the Placenta before the Child:—Recovery. By W. C. Wilkinson, Esq., Spalding.

On the 7th June, at twelve P.M., I was called to a patient in a state of syncope, between six and seven months advanced in pregnancy. Three weeks previously, I was informed she had very great hemorrhage, which had continued more or less. On the evening of the 7th, it had been very considerable; and previous to my seeing her, excessive. I found the os uteri dilated to the size of something less than a five-shilling piece; the placenta presenting; the hemorrhage excessive; the pains very feeble; she was greatly exhausted; the pulse scarcely perceptible; and the countenance blanched. I directed some brandy and water to be got down immediately, and also a scruple of ergot of rye. I passed first three fingers, and with as little delay as possible, the whole hand, into the uterus; the gush of blood was at first great; the placenta, however, was quickly and completely detached, and the hemorrhage *almost at once* ceased. I waited a while with my hand in the uterus; I then brought away the placenta, and immediately re-introduced my hand, with a view of bringing on contraction. The head of the child presented; I turned, but feeling that my patient was not in a state to bear immediate delivery, I waited an hour and a-half; she then

having somewhat rallied, I delivered her. She remained during the first two or three days in a most exhausted state, from which, however, she gradually recovered.

I feel satisfied, had the usual plan been adopted in this case, so great had been the hemorrhage previously to my seeing her, that she must have sunk; and my chief reason for sending you a report of it is, that I do think many lives may be saved, by the more general adoption of the plan recommended by Dr Radford and Professor Simpson. In this case I have no doubt it was the preservation of the patient.—*Prov. Med. and Surg. Journal*, for July 1845.

CONCEPTION IN SPITE OF ALMOST COMPLETE OCCLUSION OF THE VAGINA:—DELIVERY. BY A. DAVIZAC, M.D., of New Orleans.

The following case was reported to the Medico-Chirurgical Society of Louisiana, in October 1843.

I visited a woman, along with Dr B., aged 26, of robust stature, somewhat plethoric habit, and muscular appearance, at the time labouring under strong expulsive pains of child-birth. On proceeding to the examination *per vaginam*, I found, a little above the mouth of the urethra, a complete obstruction to the passage of the finger. The vagina was apparently completely closed by a strong, dense, striated membrane,—the striæ radiating from the centre, and giving the sensation of tense cords. An anodyne was administered.

Dr Luzenberg met us early the next morning, and satisfied himself of the state of parts above described; and in addition, discovered an opening, not larger than would admit the head of an ordinary probe, which could only be observed, when the membrane was protruded, by the head of the child during the expulsive pain. At noon, he made a crucial incision in the whole extent of the obstructing membrane; which proved to be thick and tough, resisting the knife like a tendon. Immediately after the operation, the head of the fœtus could be distinctly defined, the occiput presenting itself to the left of the pubis. At night the head had descended so as to press considerably on the perineum; but still the soft parts continued rigid and unyielding, and the bones of the head preserved their spherical form. We then attempted to deliver with the forceps, and with difficulty introduced one blade; but we found the head so firmly impacted, that we did not deem it prudent to proceed any farther, and desisted. On the following morning, we determined to perforate the head, and attempt to bring it away with the hook. Accordingly we placed the patient on a table,—and having passed the perforator into the fontanelle, and broken up the brain, the bones of the cranium collapsed, and then by the use of considerable force with the hook, we were enabled to extract the head. After this, the shoulders offered great resistance; but we finally succeeded in bringing away an uncommonly large male infant, which had evidently been dead for some time. The placenta followed immediately. The uterus contracted well, and quickly. The recovery was good.

Previous History of the Patient.—A few years since, she was married to her first husband, she being at that time a stout, healthy girl. About a year after marriage, she was confined: the fœtus had to be dismembered before delivery could be effected, and during the operation, she was very much bruised and lacerated; her husband died very soon after her accouchement, before he had had any intercourse with her. She had no sexual intercourse until her marriage to her present husband, which took place about two years afterwards. She menstruated regularly during the time. According to the husband, there was difficulty in the first copulation; and after that, he always perceived an obstacle which was elastic, and yielding to a considerable degree. Her last accouchement took place about sixteen months after marriage.

REMARKS.—It would appear, that from the laceration caused by the instrumental delivery, adhesions of the walls of the vagina resulted, and the formation of an adventitious membrane which closed it up, with the exception of a very small perforation, which could only be discovered, when the membrane was

distended; but was sufficient for the discharge of the menses, and the ingress of the semen.—Abridged from the *Philadelphia Medical Examiner*, for April 1845, in which the case is quoted from the *New Orleans Medical Journal*.

FORENSIC MEDICINE.

Medico-Legal Reports, No. I.—On Recent Cases of Poisoning by Prussic Acid.

In consequence of the fearfully energetic properties of Prussic Acid having become well known to the general public, it has, in not a few recent cases, been employed, for the perpetration of murder and suicide. It is therefore more necessary than ever, that the Symptoms, Treatment, Morbid Appearances, and Tests, should be thoroughly understood.

Under this impression, we give, as succinctly as possible, the principal medico-legal facts connected with the recent cases; along with a few remarks.

Symptoms.

Case 1. The first case to which we will allude is that of J. C. Belany, a surgeon, who was tried for the murder of his wife, and *acquitted*. The following was the statement made by the prisoner to Mr Garratt, surgeon, who was called to the assistance of Mrs Belany, but arrived too late, (and to whom the credit is due of procuring an inquest on this highly suspicious and mysterious case).—"On the previous Saturday morning, he (the prisoner) was about to take some prussic acid, which he was in the habit of doing for an affection of the stomach. In endeavouring to remove the stopper from the bottle, he used some degree of violence to it with the handle of a tooth-brush, thereby breaking the neck of the bottle. Some of the acid was spilt; the remainder he put into a tumbler, which he placed on the drawers at the end of the bed-room. He went into the front room, for the purpose of getting a bottle, wherein to place the acid. Instead of doing so, he began to write some letters to his friends in the country. He had not been there but a few minutes, when he heard a scream from his bed-room. He immediately went in. His wife exclaimed, 'Oh dear! I have taken some of that hot drink; give me some water—some cold water!' Immediately after which she was convulsed."—The prisoner likewise stated, that when he entered the bed-room, his wife told him what had occurred, and that he took the tumbler, from which she had drunk the poison, out of her hand. It is necessary to state, that this account was given *after* the cause of his wife's death had been fully ascertained.

It appears, from the evidence of the landlady of the house in which Belany had taken up his residence, that the unfortunate sufferer had continued to breathe for more than twenty minutes after swallowing the dose. A circumstance is also sworn to by these parties, which deeply affects the question of the guilt or innocence of the accused. Both swear, that on entering the room in which the deceased lay, no smell of a peculiar character was observed. Now, according to the account of the accused himself, part of the contents of the phial was spilt on the floor of the apartment, and the remainder poured into a tumbler, and allowed there to remain for a short time. Parties, as will appear afterwards, are differently affected by the smell of this acid; but we are convinced—and that by repeated experiment—that under the circumstances stated by the prisoner, few persons possessed of ordinary olfactory nerves could have failed in detecting a peculiar smell.

Dr Letheby stated at the trial, that he spilt a teaspoonful of the same acid which the deceased had taken, in a tolerably large room, and that the smell remained for more than an hour.

Case 2. The next case to which we call attention is that of Sarah Hart, for whose murder the wretched hypocrite Tawell suffered the extreme penalty of

the law. The reporter, Mr H. M. Champneys, says: "On Wednesday evening, January 1, 1845, about seven o'clock, I was hastily summoned to see Mrs Hart, living two hundred and forty yards from my house. I immediately went, and on entering, found her extended on the floor, with her head on a pillow. The countenance had a dusky appearance, the eyes were brilliant, the pupils equally dilated, and quite sensible to the stimulus of light. I applied my hand to the region of the heart, but found no pulsation. The only symptom of life, just before I entered, was a slight movement of the lower jaw. I could detect no characteristic odour in the mouth. The neighbours could give no account, further, than that she was well at two o'clock the same day. The previous history of this case is afforded partly by the confession of the murderer, and partly by the testimony of one of the neighbours. Tawell, before conviction, stated: "This unfortunate woman was in my service some years ago, and I had been in the habit of sending her money. I was pestered by her writing to me for money. She had been a very good servant while in my service, but was a bad principled woman. I went down to her house, and said, I would not allow her any more money. She asked me, if I would give her a drop of porter. I went for a bottle of stout, of which each of us had a glass; she held her hand over her glass, and said, 'I will, I will;' and she poured something from a phial, not much bigger than a thimble, and drank part of it,—the remainder being thrown in the fire. She then began to throw herself about in a violent manner, and then lay down on the hearth-rug. I went out, and did not call assistance, as I did not consider her in earnest."

The victim (Hart) was seen returning from a public house with a bottle of porter, and appeared to be in good health and spirits. Shortly afterwards, a neighbour, residing in an adjoining apartment, heard a moan, or stifled groan, proceeding from Hart's room. She immediately laid down her work, and taking her light from the table, proceeded to ascertain the cause of the noise. She saw the prisoner coming out of the deceased's house; and as she walked down the path through the garden in front of her cottage to enter that belonging to the deceased, she said to the prisoner, "I am afraid my neighbour is ill;" but he made no reply. On going into Mrs Hart's house, she found the deceased lying on the floor, her head not far from the door, her legs near the fire, and her clothes in a disordered state. Her clothes were up to her knees, the left stocking was down to the ankle, and the left shoe off. Her gown was torn, her cap was off, and at a little distance from her, and her hair was loose. She was making a noise, ("Oh! oh! oh!"), and her eyes were fixed, but she did not move her limbs. On raising her up a little, some froth came out of her mouth, and the witness thought she was dying. She soon expired.

CASE 3. Mr Pooley describes a third case.[1] He says, "On the evening of the 23d January, I was summoned to the aid of Mr H——, a medical gentleman of Stratton, near Cirencester, who was reported to have poisoned himself. I found him lying on his back on the hearth-rug, his head supported by a folded shawl. His countenanee was placid, and free from any contortion; his eyes closed, and the pupils not largely dilated; a fresh healthy colour was on his cheeks. His limbs were quite supple, and his body warm. Life had been extinct about ten minutes. From the statements made to me in the room, and which afterwards appeared in evidence at the inquest, I learned, that he had returned home from a long round of visiting, much fatigued, and feeling a pain in his chest, took the bottle of acid from its place in the surgery, and went into a parlour adjoining, for the purpose of taking a minim dose to relieve it,—a remedy he had more than once had recourse to before, for the same purpose. While there, he was heard to stagger, and as the house-keeper rushed into the room, he fell, and an ounce phial, about half-full of hydrocyanic acid, of Scheele's strength, corked, dropped from his hand. She rang the bell violently, and gave the alarm, and in five minutes, his brother, who is a medical man, was on the spot. He was then breathing, and his pulse was distinctly felt at the

[1] Medical Gazette, 1845.

wrist. Notwithstanding every means tried to counteract the effects of the poison, he expired in a few minutes without any scream, and quite tranquilly.

Case 4. Mr Hicks of Newington narrates the following case.[1] He was sent for, to see a patient who had been taken suddenly ill. He found a female, of about 22 years of age, lying on her back, perfectly insensible, foaming at the mouth, the teeth clenched, and the face so greatly congested, as to be almost purple. "The breathing was slow, laborious, and at long intervals; the pulse gone, and the action of the heart but feebly to be felt. The eye-lids were partly closed, and the eyes appeared as if pushed forward between them, while the pupils were dilated and quite insensible to the stimulus of light. The whole body was under such strong spasmodic action, that the head seemed buried between the shoulders, and the arms nearly turned round by the action of the pronators." These symptoms had appeared immediately after taking a dose of medicine, which by tasting and smelling, was found to contain prussic acid. The breathing became gradually slower, and in a few minutes the patient expired. Death appeared to be caused by the inability of the patient to inspire, "the muscles of the chest, as of every other part of the body, being under strong tetanic spasms." The girl had swallowed by mistake about 20 drops of Scheele's acid while sitting, and immediately afterwards, started up, "throwing her hands over her head, uttering, at the same time, a loud gasping sound, *but no scream or shriek;* she stood still for a second or two, then running forward about two yards, fell with her head first to the ground, after which she never moved, but continued to make a sort of moaning noise for five minutes."

Case 5. The following somewhat singular case occurred in the practice of Mr Hicks some years ago.[2] A girl having quarrelled with her lover, expressed a wish to leave the room, on account, as she stated, of feeling faint; but she had not done so more than a minute, when she was observed to throw her hands over her head, and then fall to the ground; the breathing for a time was quite imperceptible; and, after making a few gasps for breath, she died, five minutes after taking the poison, without having been in the least convulsed from the first.

Case 6. A coroner's inquest was recently held in Leeds, on a case of poisoning by this acid. It appeared that a gentleman, labouring under chronic disease of the membranes of the brain, bought an ounce of the acid, of Scheele's strength, from an apothecary, from whom he had frequently made purchases. He retired to a tavern and reading-room, where he seems have swallowed the dose in an apartment adjoining the bar. The attention of the servant was first attracted by some one going quickly into a room up stairs. In about three minutes afterwards, he was found lying upon a sofa, but immediately sat upon the end of it. Shortly afterwards, when asked if a doctor should be sent for, he said, "Oh, no; it is too late—it is too late!" Mr Nunneley, surgeon, saw him in about fifteen minutes after the acid was taken. He was lying on the sofa, alive, but unable to speak. Water was dashed on his face, and ammonia was administered. The water had an effect for several successive times; it roused him, and he took a deep inspiration. He gradually became stiller, and sank; his legs, arms, and chest, were convulsed slightly, the upper extremities more than the lower, and the jaw was fixed; the eyes were prominent and staring, and the pupils widely dilated, but before death they became much less so:—they were glassy. The countenance was puffed up, dark, and rather purple. There was some foam about the mouth; his breathing was slow and convulsive,—something like violent sobbing. An ounce phial was found in the deceased's pocket, secured with the stopper. He lived about three quarters of an hour.—*Provincial Medical and Surgical Journal* for July 1845.

Such, then, is a brief account of the symptoms excited in six cases by this poison.

In the first case we have adduced, the husband states that he broke, by accident, a phial, and to save the contents, placed them in a tumbler; that his wife poured some water into the same vessel, and without knowing the nature of the

[1] Medical Gazette, 1845.

[2] Ibid. vol. xxxvi., (1845), p. 462.

poisonous substance it contained, swallowed it. That on hearing the scream he rushed into the bed-room, when she told him of the occurrence. Leaving altogether out of consideration the improbable nature of the accident, as detailed by the husband, and the absence of any peculiar smell in an apartment in which this acid had been so long, and so freely, exposed, we come to the consideration of the important question:—

After the shriek or scream described, was the deceased capable of narrating the nature of the occurrence, and handing over the tumbler from which the dose was swallowed? While we admit of the *possibility* of acts of volition after the scream, we consider the occurrences, as here narrated, to be extremely improbable. In the case of Sarah Hart, all volition was gone, immediately after the scream which alarmed the neighbour. In Mr Pooley's case, there is some suspicion of an act of volition after swallowing the dose, for the *corked* phial was observed to fall from the patient's hand. But it is hardly to be supposed, that a professional person would take a dose of such a medicine hap-hazard from the mouth of a phial; some other vehicle may have been used by him; and the phial corked before the dose was swallowed. The patient whose case is narrated by Mr Hicks seems to have taken about 20 drops of Scheele's acid, and after swallowing it, was able to raise her hand, uttering at the same time a loud gasping sound; she then ran forward a few yards and fell.

Dr Letheby, examined in the case of Belany, states in reference to this question,—"I have made numerous experiments with prussic acid upon the lower animals. The first effect which the administration of prussic acid produces upon the lower animals is the appearance of a peculiar giddiness, of a disposition to run round, as if the head were affected; then the respiration becomes irregular; subsequently, there is a scream. Perhaps before that scream is uttered, the animal drops; at the same moment, after two or three violent respiratory efforts, which produce a cry, a shriek, or a scream, convulsions follow, with foaming at the mouth; and in a longer or shorter time, according to the quantity of the acid administered, death ensues. I have not had an opportunity of seeing its effects on the human subject. After the shriek or scream, all sensibility and volition ceases. *In my judgment, a person after giving that shriek, would not be able to walk or converse.*"

Dr Thomson, another witness in the same case, says—"The effects of taking it are those which have been so clearly explained by the last witness; giddiness, faintness, convulsions resembling those of tetanus or lock-jaw, and screaming. When the symptoms have advanced to a scream, the powers of volition are gone. After the scream, it would be impossible for a party to talk, so as to describe what had happened."

These opinions, given after much painful deliberation, probably made a strong impression on the minds of the jury; the effect, however, must have been greatly impaired by part of the charge which the Judge felt bound to make. He said,—"The medical men had told the jury, that with the scream that was spoken of, all volition and power of speech would cease; but then, it must not be forgotten, that the judgment of these gentlemen must be tempered with the caution, that none of them had ever witnessed the effects of prussic acid on the human body." Belany may thank a merciful Judge, who lost no opportunity of turning every point of the evidence in his favour.

Dr Glover, who came forward, at the suggestion of the friends of Belany, in his defence, says,—"The shriek is not the last act of volition in animals, because I have seen animals poisoned by prussic acid *rush about uttering* those shrieks or yells, *i.e.*, after a shriek, the animal was still able to run." This statement is in exact accordance with many experiments which we witnessed nine years ago;—but it does not prove much in favour of Belany. Mr Hicks' patient ran forward about two yards after making a gasping sound; but such an act, depending altogether upon mere physical power, is very different from giving a detailed account of the accident, and making a demand for cold water:—acts evincing a full command of mental, as well as of physical, power. We have no hesitation in asserting that the prisoner's account is totally at vari-

ance with the present belief of the profession, as founded upon experiments and observations.

Case 7. A commercial traveller was recently found dead in Glasgow, and in his repositories was discovered a letter, stating that he intended to commit suicide by this poison, and throw the phial out of the window, that no one might know the cause of death. On examination, fragments of the phial were found under the window. In this case the phial must have been thrown out immediately before the poison manifested its operation.

In large doses, even, the effects are not instantaneous[1]—*some* time *always* intervenes before the giddiness, the hurried respiration, or the *scream* takes place; BUT AFTER THE OCCURRENCE OF SUCH A SCREAM, ALL FACTS ARE AGAINST THE PROBABILITY OF ACTS OF VOLITION.

Case 8. The following case is perhaps the most remarkable on record, and deserves to be carefully studied in reference to this point. On the morning of December 15th, 1843, Mr Godfrey (of Bristol,) was summoned to the shop of a druggist, to a person who was said to have poisoned himself. He found a tall well-made man, about 44 years of age, placed in an easy chair, and was informed, that it was supposed, that he had taken a large dose of prussic acid before he came into the shop, as he had purchased half an ounce at the same shop two days before. Mr Godfrey found him in a quiet easy posture, evidently dying—insensible, pale, and cold; the jaw was fallen; the tongue slightly protruding; the pulse perceptible; he gave a faint forcible respiration, which was repeated after an interval of 5 or 6 seconds; the eyes were of almost natural appearance, dull rather than bright, not prominent—the pupils large. There was no convulsion nor apparent venous turgescence; no perceptible smell of prussic acid about the mouth. Appropriate treatment was adopted, and the efforts at restoration were continued for nearly an hour. Mr Godfrey believes, however, that death took place within four, probably within three minutes after his arrival, and perhaps within from ten to twelve minutes from the time of swallowing the poison.

The deceased had been in a distressed state of mind for some time. Three days previously, he came to the druggist's shop, for half an ounce of prussic acid, and having had a partial medical education, and been furnished with the medicine before, as well as with other medicinals, the druggist had no hesitation in supplying him, removing half an ounce from the usual stoppered ounce phial, and giving him the remainder. On the fatal morning, one of his daughters accompanied him to his office, where they were seen standing together; he sent her away with a message, and taking off his great coat, proceeded to a room up stairs. After a short interval, he was seen to walk rather quickly out of the house in the direction of the druggist's shop. He must have swallowed the poison on proceeding up stairs, for the bottle was found in the fire-place on the following morning, and the stopper on the table. It is presumed, he took the acid before placing the bottle in the fire-place, as no glass nor other drinking vessel was found in the room: He must have gone to the head of the stairs, a distance of ten average paces, descended the stairs, seventeen in number, and proceeded as described to the druggist's shop, making a total of fifty-five paces and seventeen stairs. He entered the shop in his usual manner, which was slow and easy; the druggist (a personal friend of his), asked him how he did?—he replied in his usual tone of voice, "I want some more of that prussic acid." The druggist passed round the side and end of his counter to speak to him, and then perceived that he was in the act of placing his hand upon him, as if for support, his eyes being fixed upon him with a stare. The druggist said to him, "you

[1] Dr Cormack mentions an interesting illustration of this statement in a note at p. 31 of his Treatise on Creasote, published at Edinburgh in 1836. "I was present," says Dr C., "at an experiment, along with Dr J. Reid, and Dr James Y. Simpson, when *an ounce* of Scheele's acid was administered to a dog. Death did not ensue for about a minute; and other dogs of the same size were killed on that occasion, as rapidly, by six drops of acid from the very same bottle!"

have been taking the prussic acid;" he could make no answer; the druggist backed him towards a chair, placed him in it, and ran to the door for help. Before he could return, the unfortunate man had fallen to the ground, with his head lying against the counter.

DOSE.

The melancholy accident which occurred in one of the Parisian hospitals, a few years ago, when seven epileptic patients were poisoned by an over-dose of this acid, fixes, pretty accurately, the smallest quantity which will prove fatal to man. They each took a draught, containing two-thirds of a grain of pure acid, and several survived for forty-five minutes. It is highly probable, that a dose materially less would not have proved fatal. In the 8th vol. of the *Dublin Med. Journal*, a case of recovery after a dose of two-thirds of a grain is narrated by Dr Geoghegan. In all cases, much must depend on mental condition, the state of the constitution, and the amount of ingesta in the stomach.

POST-MORTEM APPEARANCES.

On this part of the subject it is not our intention to dilate. We will confine ourselves to the accounts recorded of two of the recent cases.

Dissection of Sarah Hart, 13 hours after death.—"On stripping the body, we carefully noticed the absence of all external injury or violence whatever; the back of the shoulders down to the buttocks was of a livid blue; the rectum had been emptied during the last moments of life. The extremities were extremely rigid, and the lower jaw fixed so that it required considerable force to depress it. On making an incision through the integument, I immediately perceived an odour of prussic acid. Mr Pickering also distinctly recognised it. Mr Norblad could not. The cavities of the thorax and abdomen were then exposed. There were old adhesions between the pleura pulmonalis and costalis of both sides, particularly of the right, but no effusion; the lung itself was healthy throughout, but there was *slight venous congestion.* The pericardium was natural, and contained no fluid; the heart was of natural size, contained dark fluid blood in the right side, but not the slightest appearance of coagulum; the left side was quite empty, and appeared as if *washed.* The liver, spleen, and kidneys, had no appearance of disease whatever, they all contained fluid blood; the latter had a *pinkish* appearance. The contents of the stomach consisted of partially digested food, having a *strongly acid odour of beer*, but not the least smell of prussic acid could be detected; the internal coat of the stomach presented no appearance worthy of notice. The vessels of the membranes of the brain contained dark fluid blood; the substance of the brain was natural; there was no extravasation of blood or effusion of serum, either between the membranes, in the substance, or cavities of the brain. I also recognised the odour of prussic acid here, and called Mr Pickering's attention to it *several times*, but he could not satisfy himself of its existence."

Before leaving this case, it is necessary to state, that some degree of misunderstanding appears to have existed amongst the medical reporters. Mr Norblad, whose name was alluded to in the above report, says—"there was no odour differing from that of an ordinary dead body, in the thorax or abdomen. The *closest possible attention* was paid to this point by the two other medical men who were present, and we all agreed on this point." Can the apparent contradiction be reconciled?

In reference to the *post-mortem* examination of Case 4, Mr Hicks says—On examination ninety hours after death, there was considerable lividity of the body, the teeth were firmly clenched, and there was foam about the mouth. The dura mater and sinuses were much congested, the substance of the brain was dotted with blood, blood fluid and black, but without any odour of prussic acid. Lungs congested; heart small; all its cavities were filled with fluid blood of a very dark colour.

The odour of prussic acid, on opening the heart, was very evident, not so much from the smell, as from the sense of constriction produced in the fauces.

The stomach contained a little undigested food, smelling strongly of prussic acid. The liver and other organs in the abdomen were healthy.

The blood, in cases of poisoning by this acid, is usually fluid, but not invariably so. This diversity depends upon the different degrees of rapidity with which death takes place.

The existence of the odour of prussic acid in the stomach, or in any of the cavities or secretions of the body, must depend upon the ventilation of the apartment, the quantity taken, and the period the patient has lived, to throw it out of the system. No odour could be detected in the bodies of the Parisian epileptics, in consequence of their having so long survived the fatal dose.

TREATMENT.

On the trial of Belany, Dr Letheby stated, "I have since made experiments with the prussic acid I got from Mr Donahoo (the druggist of whom Belany purchased the poison,) upon animals, and restored them by the application of ammonia, and the affusion of cold water. By these means I restored a cat in ten minutes. I had given that cat between 10 and 20 drops. I also tried an experiment upon a horse, to which I administered prussic acid twelve times the strength of the two per cent. acid, and by the same means restored the horse, though it was lying upon the ground in convulsions, and in the incipient stage of death. I continued the remedies for about 20 minutes, and the horse was restored."

Practical writers consider with Dr A. T. Thomson, "that if a person lived twenty minutes after taking prussic acid, the probability would be in favour of recovery, if remedies were applied." It will be recollected that the unfortunate Mrs Belany was sworn to have breathed 20 minutes; but no efficient treatment was resorted to.

What ought a Practitioner to do in so fearful an emergency?

We have no difficulty in answering this all-important question. 1. He ought in the *first* place, to dash cold water on the face, the naked anterior part of the chest, and dorsal spine. Care must be taken not to soak the clothes of the patient. The object is not to chill the patient: but to produce a sudden shock on the external respiratory nerves, for the purpose of inducing a sudden expansion of the thoracic walls, and a full inflation of the lungs as a consequence thereof: and farther, by getting the lungs thus expanded, we enable the right side of the heart to unload itself. 2. Diffusible stimuli may be given. 3. A small, but sudden abstraction of blood *pleno rivo*, from the jugular vein must be practised if the heart has ceased to beat, or beats very feebly. 4. If the cold affusion, diffusible stimuli, and bleeding from the jugular, are not sufficient to restore the action of the heart and lungs, then artificial respiration must be resorted to.

We need say nothing in favour of the cold affusion, as every one believes its employment in poisoning with prussic acid to be orthodox. The same remark will apply to the exhibition of diffusible stimuli and trying artificial respiration.

With regard to the "small but sudden abstraction of blood from the jugular vein," it is necessary to say something in the way of explanation, as very few of the numerous writers on poisoning with prussic acid, whom recent events have called into print, seem to be aware of the object for which it is resorted to.

The recommendation and explanation of this treatment was given incidentally by Dr Cormack, in 1836, at pages 84 and 92 of his Treatise on Creasote. He there endeavours to show, that in poisoning, both with creasote and prussic acid, the right side of the heart becomes rapidly unable to contract, from mechanical distention with blood, and that if this state be averted for a comparatively short time, recovery may take place. Dr Cormack has also some remarks on this topic in his Prize Thesis on Air in the Organs of Circulation, published in 1837. But the fullest exposition of the subject is that afterwards given by Dr Henry Lonsdale in his admirable "Experimental Inquiry into the Physiological Action, Poisonous Properties, and Therapeutic Effects of the Hydrocyanic Acid," a paper which formed the author's Thesis on the occasion of his graduating at Edinburgh in 1838, and was afterwards published in No. 133 of the *Edinburgh Medical and Surgical Journal*. He says:—

"Though the value of those remedies commonly advised has been considered at some length, I am strongly impressed with the belief, that an important part of the treatment of such cases still remains to be noticed. Looking at the mode in which death takes place,—the continuation of the heart's action for a short time after the respiration has ceased,—the gradually increasing distention of the right side of the heart by venous blood, and then the final arrestment of the movements of this organ;—the renewal of the contractions of the pulmonic heart after the withdrawal of a small quantity of blood from its auricle, are all circumstances of the utmost importance, as suggesting the principles of treatment. It has already been stated, that the acid, although having a direct influence on the central organs of the nervous system, also affects the contractility of the heart, and that this effect on this organ varies from a slight diminution to complete suspension of its contractility, according to the amount of the dose and other circumstances. In those cases in which coma is induced, without much, if any diminution in the contractile power of the heart, the blood, notwithstanding, becomes congested in the right side of that organ, from the imperfect manner in which it is transmitted through the lungs, as occurs in all cases where the respiratory movements are imperfectly performed; bleeding from the jugular, by relieving the engorged state of the right side of the heart, may be expected to favour the remedial agent, such as dashing cold water upon the face, applying ammonia to the nostrils, &c. employed to revive the patient and cause him to breathe. It also appears, that when the effects of the acid upon the heart are transitory, and produce only a temporary diminution of its contractility, the right side of the heart becomes engorged during the partial suspension of its movements, and that when it would renew its usual contractions, it is prevented from doing so by the mechanical distention of its walls. By opening the jugular, in these circumstances, we may hope to relieve the engorgement of the right side of the heart, and thus materially favour the renewal of its contractions. It needs no remark, that in those cases where the acid acts with sufficient energy to arrest primarily the contractility of the heart, all remedial agents will be applied in vain.

"I have often observed, that the puncturing of the subclavian vein in the lower animals had the desired effect, and am therefore led, *à priori*, to believe, that the opening of the jugular vein in the human subject will serve the same purpose—that of unloading the right side of the heart. But Haller has shown by experiment, which was afterwards confirmed by Spallanzani, that the right side of the heart could be emptied of its blood by opening the jugular vein. This was attributed by Haller entirely to the derivation of blood, as is observed in the flow of this fluid from vessels opened at a great distance from the heart. These experiments of Haller have been more fully illustrated by my friend, Dr John Reid, in the 127th number of the *Medical and Surgical Journal*. He is of opinion, that the flow of blood from the lower orifice of the jugular vein depends on the contraction of the right side of the heart; but in cases where the heart is extremely congested, he believes the derivation of Haller to come first into operation. Connecting Dr Reid's observations with what I have witnessed in thirty experiments, there appears little doubt in my mind, as to the mode of proceeding in cases of poisoning with hydrocyanic acid. But as in practice we must be governed by more than theoretical opinions, experiments were instituted to ascertain the value of bleeding from the jugular vein. Before detailing these, it may be well to notice the opinions of authors. Hume observed that bleeding was useful in 'relieving the violent symptoms' in a dog poisoned by the acid under consideration. Of its *modus operandi* we are not informed. Orfila repeated Hume's experiments, but without success. Dr Paris says, 'bleeding seems a decidedly fatal measure;' while Dr Christison remarks, that 'venesection is probably indicated by the signs of congestion in the head.' The discrepancy of opinion stated by the above authorities appears to be attributable to the want of physiological data.

"EXP.—A ligature was passed around the left jugular vein of a small, lean dog, of the bull-terrier breed, five months old. The animal was made to swallow ten drops of prussic acid, he became violently affected before the thirtieth

second, and in ten seconds more, there was complete tetanic rigidity of the whole body, with expulsion of the urine. As these two symptoms were very generally observed to be the immediate precursors of death, the jugular was now freely opened, and the blood flowed in a forcible stream to the extent of two ounces, when it was stopped. As the ligature had been drawn tight before the vein was opened, the blood could only come from the larger venous trunks leading directly to the right side of the heart. After the bleeding, we felt more distinct contractions of the heart, and the respiration returned. In three minutes, the respiration became more active, and there were some signs of returning sensibility. In ten minutes, his state resembled that of drunkenness. Before the twenty-fifth minute, he walked across the room; and in half an hour, he was perfectly recovered.

"In this remarkable experiment, there was realized more than my most sanguine reliance on the treatment by venesection had ever anticipated. The dose, as proved by previous experiments, would have produced death in two, or at the farthest three minutes after being taken. That bleeding in this experiment was not beneficial by relieving cerebral congestion, is quite apparent, because the ligature on the vein prevented the return of blood from this quarter.

"In a second experiment, where a ligature was also placed on the jugular vein as in the previous experiment, bleeding was equally successful. It was observed in a third experiment where the dose of the acid was so large as to preclude all hopes of recovery, that bleeding from the jugular vein prolonged life, and thus afforded time for the application of other remedial agents.

"The following experiment was made by Drs J. Reid and Duncan, and Mr Spence. To a large-sized dog, a strong dose of diluted acid was given. The animal was soon affected with convulsions, which continued for two or three minutes, and he was apparently dying. The cold affusion had little or no effect. The external jugular vein was now opened, and the blood had scarcely commenced flowing, when the convulsive movements began to diminish, and continued to diminish rapidly, during the flow of the blood from the vein. After losing a few ounces of blood the animal recovered.

"Dr Cormack has detailed a similar experiment, in which the effects of relieving the distention of the heart are strikingly illustrated. After the acid was administered the animal seemed to be in the agonies of death, but whenever the jugular vein was opened it began to revive, and seemed quite well at the end of an hour.

"From these experiments, I feel no hesitation in saying, what might indeed be inferred *à priori*, from an acquaintance with the physiological action of the poison, that bleeding from the jugular vein is of essential service in the treatment of poisoning with hydrocyanic acid. It evidently acts by unloading the congested cavities of the right side of the heart, which enables this viscus to renew its contractions until the coma subsides.

"The following case, related by Magendie, is further confirmation of the utility of bleeding from the jugular vein. A young lady, eighteen years of age, through the neglect of her physician, swallowed a large dose of an extemporaneous mixture containing prussic acid. A few minutes afterwards, she was seen by Magendie, who found her labouring under drowsiness, convulsions, and 'cerebral congestion.' A large quantity of blood was abstracted from the jugular vein, and several drops of ammonia diluted with water were administered; these measures were followed by a sensible amelioration; consciousness and tranquillity returned.

"In my opinion, the relief of cerebral congestion was not what proved of advantage, for when a ligature was placed above the opening of the vein, as in two of our experiments, benefit resulted. There cannot, however, be the slightest doubt that bleeding is rendered still more efficacious, by allowing some blood to come from the head."—*Lonsdale.*

In citing the experiments of Drs Cormack and Lonsdale, Dr Christison, (in his last edition), remarks—"It is probable, that bleeding from the jugular vein deserves more attention as a remedy, than it has yet received. The right side of the heart is almost invariably found much gorged with blood, in animals

examined at the moment of death; and the contractions of the heart, in such circumstances imperfect or arrested altogether, have often been observed by experimentalists to be instantly restored, on promptly removing the state of turgescence."— *Christison on Poisons*, ed. 1845, p. 780.

TESTS.

In the recent trial of Tawell, much stress was put, by the counsel for the prisoner, on the absence of smell of the acid in the contents of the stomach; but the learned Judge who presided, very properly directed the jury, "That smell was a proof of its presence, but that the absence of smell was no proof of its absence." It will be recollected, that the poison was administered in a draught of London porter, a mixture which covers the odour of the acid to a very great extent. Mr Taylor says, in a recent paper on poisoning by this acid, that, "So readily may persons be deceived on this point, that one of the witnesses for the prosecution, and another for the defence, at the very trial, (Tawell's,) were unable, in an experiment afterwards performed by me, to detect the slightest odour of prussic acid in three ounces of porter, containing a dose of this poison sufficient to kill an adult, *i. e.* two-thirds of a grain of anhydrous acid. My experienced colleague, Mr Aikin, was unable to perceive the least trace of it by smell; and on another occasion, a person, not knowing the object of the experiment, was unable to detect the odour in a tube containing one drachm of an acid of one per cent." Such facts prove the fallacy of placing dependance on the odour, and indicate the propriety of testing for the acid in suspicious cases, whether the smell be present or absent. In the celebrated case of Donellan, the odour was the only evidence of the poison having been swallowed; no chemical evidence was tendered; but now a jury would not convict on such testimony, unless supported by very strong collateral evidence. According to the experiments of Dr Lonsdale, the odour is sometimes very persistent in the cavities of the body after death; he found, that it could be perceived for eight or nine days, but the acid could not be detected chemically for more than four days after death.

Owing to the extreme volatility and solubility of the poison, the odour of prussic acid disappears very rapidly, when the body is exposed to a current of air, or a stream of water; hence, much will depend on the temperature of the apartment, and the exposure to which the body is subjected.

Mr Taylor has recently instituted some experiments, to determine the delicacy of the tests for prussic acid.

"*Nitrate of Silver.*—A standard solution was made, in which each grain of liquid contained the 4400th part of a grain of anhydrous prussic acid. One grain of this very diluted liquid (1-4400th) placed on a plate of glass gave a decided milkiness with the nitrate of silver; but when the same quantity was mixed with sixty grains of water, nitrate of silver had no perceptible effect; showing the powerful influence of dilution on the action of a test; for the 4400th of a grain of prussic acid was in this instance diffused through 264,000 parts of water. Practically the limit of the silver test in detecting prussic acid must be at that point at which it ceases to produce a sufficient quantity of the cyanide of silver for the production of cyanogen by heat.

"*Mixed Oxides of Iron Tests.*—A solution was made containing the 50th of a grain of anhydrous acid in 3000 parts of water. The test produced only a faint green tinge in the liquid; but in the course of 24 hours, subsided into a visible deposit of Prussian blue, the liquid above being perfectly clear. From several experiments, I found that this was the point, both with regard to quantity and dilution, that the oxides of iron began to indicate the presence of prussic acid. The quantity here detected by the test is equal to that already described, as necessary for the production of a sufficient quantity of cyanide for the evolution of cyanogen; *i. e.* two drops of the Pharmacopœial acid, or less than a drop of Scheele's acid; but there is the difference in favour of the iron test, that it is unnecessary to collect and examine the precipitate; while this is absolutely necessary in the case of the silver test."— *Guy's Hospital Reports*, April 1845.

Tawell's counsel, Mr Kelly, who was apparently unusually interested in the fate of his client, attempted to prove, or rather to raise a suspicion in the minds of the Jury, that the prussic acid discovered in the contents of the stomach, might have been generated therein!! The following replies were given to interrogatories put by him:

Surgeon Champneys said, "I should consider, that before prussic acid could be obtained from the horns, bones, and blood of animals, that a heat of 400 or 500 degrees of Fahrenheit would be necessary."

Mr John Thomas Cooper, chemist,—"It would require between 600 and 700 degrees of Fahrenheit to decompose animal matter. If fluid were not present, I think it quite possible that the sand-bath would decompose animal matter."

The stomach contained a small quantity of apples, *but no pips;* nevertheless an attempt was made to show, that the poison might have been formed from pips!!

Henry Thomas, shopman to a chemist, was made to say;—"Apple pips contain prussic acid. I have assisted in extracting it from the pips of 15 small apples. The process was a soft water bath, diluted sulphuric acid, and sulphate of iron. Two grains and a-fourth of cyanide of silver were obtained; then 12-10ths of a grain of pure hydrocyanic acid were produced. In this process two sweet almonds were used."

We are at a loss to know why *almonds* were used in experimenting upon apple-pips. Had Mr Kelly attached much weight to this part of the defence, he would have placed in the witness-box some of the celebrated chemists he had retained to watch the progress of the trial. His mooting the point was perhaps a proof of chemical ignorance; but more probably an indication of his low estimate of the common sense of the Jury. We were lately much edified by the reply which we received from a legal friend, at whom we enquired,—"Why did you ask the medical witnesses such irrelevant and absurd questions?—"The case was so plain that my only chance lay in confusing the Jury, by introducing matter irrelevant, but apparently relevant. They were stupid, ill-educated men, and I succeeded." We presume that Mr Kelly's apple-pips were thrown at the Judge and Jury, simply because he hoped that they were sufficiently stupid to be perplexed and staggered by them.

In compiling the above report, we have not endeavoured to write a complete article on Prussic Acid; but simply to notice the most important questions suggested by recent cases. For all other information, we refer to *Lonsdale's* able Memoir, and *Christison on Poisons*—a work which is, or ought to be, on the shelves of every medical practitioner. We are glad to observe that *Mr Nunnely* of Leeds is at present engaged in an extended inquiry into the effects of different doses, and the value of different remedies.

Trial of Goule for Murder:—Plea of Insanity. (Northern Circuit.)

Henry Louis Goule was indicted for the murder of his wife.

It appeared that the prisoner and his wife lived very unhappily together, in consequence of jealousy on the part of the former. He accused her of undue intimacy with different gentlemen.

On the 10th of June, the prisoner reached home about seven o'clock. After sitting for a short time, he rose hurriedly, buttoned his coat, and went out, at half-past seven. He was absent about an hour and a half. When he returned, he grinned at Mrs Goule, who was then at the inside, and he at the outside, of the window. He then went in. He appeared a little flurried; but became calmer. Mrs Goule sat at the window, in such a position as to see every one coming up the street on the opposite side. When the prisoner came in, he sat opposite Mrs Goule: it was about half-past nine. He said to her sister-in-law, "Jane, do you think Emma innocent?" She replied, that she did. The deceased said, "You hurt me; you wound my pride, Henry; you doubt my virtue." At this she rose up. At that time there were two gentlemen coming up

the street, on the opposite side. She said, "There is Mr Scruton and Mr Jepson, I will call them in and have this cleared up." He had often named Mr Scruton to his wife, and to her sister-in-law. He said that Scruton was too familiar with his wife; and this he said several times. It was a frequent topic of conversation. The deceased went towards the door: the prisoner stood before her, and said,—"*Don't.*" She said,—"*I will.*" She then went to the door, which was ajar; and so did the prisoner, who attempted to stop her. The prisoner put his hand behind him, and pulled a pistol out of his right-hand pocket. He said, "Then, if you will, take this;" and he fired. She had put up her left arm between her and the pistol. The ball hit her left arm. She opened the front door, screaming out, "Oh God! I am shot." She crossed the street: the prisoner followed: without stopping, he took aim with another pistol at his wife. He fired, when running after her. A surgeon was called in; but on the 17th she died of lock-jaw.

The following is the substance of the exculpatory evidence:—

Mary Jane Gile, a relation of the prisoner, the principal witness for the prosecution, stated,—"Within the last fortnight the deceased complained very much of his head; I have often heard him say, he thought a wound in his head affected him."

Mr Stoke, an assistant to a surgeon, said,—"Mr Goule was wounded in the turmoil of the pitmen some time ago; it was a very serious wound; I was called in, when he was seized with a fit; since he received this wound, I have frequently seen him in an excited state."

Mr Green, surgeon, said,—"The wound sustained by the prisoner on the occasion referred to by the last witness was of a very severe character. Before it was perfectly healed, he wandered away, and remained for some days. When he came back, he was in a very excited state. He has frequently been very wild in his eye, and eccentric in his manner since. It frequently happens, that persons who have had concussion of the brain are excited at intervals, and lose all control over themselves. When the prisoner was in his senses, he was a very superior man."

VERDICT, "NOT GUILTY, on the ground of Insanity."

TRIAL AND ACQUITTAL OF JOHN WELCH, a DRUGGIST, FOR POISONING TWO CHILDREN WITH CORROSIVE SUBLIMATE, EXTERNALLY APPLIED, FOR THE CURE OF RINGWORM.

(*At Worcester, June* 18. *Before Lord Denman.*)

JOHN WELCH, aged 35, a chemist and druggist, was charged with the manslaughter of Jane Genever, and on another indictment with the manslaughter of Emma Genever, at Hagley, Worcestershire, in May last.

Mr Whitmore opened the case for the prosecution, stating the facts. The prisoner is a chemist and druggist at Stourbridge; Jane and Emma Genever were children of a labourer at Hagley, and having caught ringworm, the mother applied to the prisoner. The result was the death of the two children.—The following is the evidence:—

Mrs Sarah Genever, wife of James Genever, a labourer at Hagley.—I had three children—Jane, Emma, and Sarah. I had observed a disorder on their heads in April last; it was worst in the two younger ones—the deceased. On 11th April, I took them to prisoner's shop. He is a druggist and seedsman. He looked at their heads, and gave me a box of ointment and powders; the ointment was to be rubbed on night and morning, and the powders to be taken every other night. I followed his directions on two of my children at first, and on the 18th I went to his shop again. There did not appear much difference in the children, although the prisoner said he thought the disease was killed, and that they had better take a little more to make all safe. He then gave me some powders for the third child. He told me to bring a small phial, and the children, next week. I did so, and the children then seemed in good health. He said their heads were perfectly sound. He took the phial, and said he would give me a little spirits for one dressing. He filled the phial with two liquids, as

clear as water; then a substance like saltpetre was put in, after being pounded in a mortar. This mixture was for the three children. He told me that it was poison, and I was to take care they did not drink it, and that I was to rub it on at once to prevent mistake; he said it was to remove the scurf. I applied a small quantity to the head of the eldest child, then to the others, and there was some left in the phial, which was thrown away the next day, when the children appeared very ill. They all seemed in pain when I dressed their heads. They were uneasy all the evening, and about eight o'clock Jane became sick and complained of her head and bowels; she was ill all the night, and her sickness continued till the Monday; on the Sunday, there appeared little water blisters on her forehead. I sent for the prisoner on Sunday, but he did not come. On Monday I sent for Mr Cooper, the surgeon to the Dispensary, who came and gave me medicine for them, which I applied as he directed. Jane died on the Saturday.

Cross-examined by Mr Yardley.—I had not been in the habit of going to Mr Welch; I have lived at Hagley five years. I was recommended to him by persons saying he had cured their children of ringworm. The ointment was dark coloured. The bowels were in good order all the time I administered the medicine; the bowels were inactive after the 26th. Prisoner told me, if the powders did not operate, I was to give the powders every night.

Mr Charles Cooper, surgeon to the Stourbridge Dispensary, saw the deceased Jane, on the 28th of April; her head was violently inflamed, and blistered all over the forehead. She was feverish, and had been sick. I directed some medicine for her, and saw her again on the Wednesday, when the head was more inflamed, and the gums were affected, the lips swollen, and profuse salivation. I ordered some cooling medicine, but the salivation became more violent, and on the Tuesday afterwards I saw her dead, in the presence of Dr Fox. We examined the body. The surface of the head had become caked or crusted; the external part of the mouth exhibited patches of mortification, and the gums and tongue were in a complete state of sloughing. The stomach and intestines were inflamed; and, from what I saw altogether, my opinion is,—that the immediate cause of death was exhaustion proceeding from the sloughing of the mouth, occasioned by mercury having entered the system. I had not prescribed any thing which could have occasioned such symptoms. The application of so strong a dose of mercury under the circumstances was neither safe nor justifiable.

Cross-examined.—I have been six years in practice, and have applied mercury to some cases of ringworm. I consider it a proper application. I have generally left it to the parents to apply it, under my direction. Mercury is a valuable medicine, but a dangerous one, according to the constitution of the patient. It is of all medicines the most uncertain in its operation. Children are generally less susceptible of mercury than grown-up persons. In some cases, I have heard of very small doses of mercury having had a deleterious effect on the patient, and in cases impossible to guard against, where it had been given with the most laudable intention. When I discovered the existence of mercury in the child Jane, I only altered my treatment by ordering a lotion for the mouth. I believe that was a proper course; it was a saline gargle. I ordered no vapour bath, nor sulphuric acid, but prescribed demulcent medicines. If I had thought there was mercury in the intestines, I should have administered the medicines you name. I know nothing of Mr Welch, the prisoner; I have heard he was an assistant to Mr Downing, an eminent surgeon at Stourbridge.

Re-examined.—The external application of mercury over the whole surface of the head would at all times be most unsafe. There are different preparations of mercury, but from Mrs Genever's description I should say this was *corrosive sublimate.*

Dr Fox.—I am in practice at Hagley. On the 1st of May, I visited Jane Genever. [The witness's evidence fully corroborated that of Mr Cooper.] Witness attended the *post mortem* examination, and agreed with Mr Cooper's description; and, in his opinion, as to the cause of death.

Cross-examined.—If the application of mercury were properly watched, it would not produce such a result. Mercury may be exhibited innocently, and

yet cause fatal results. I have administered mercury in ringworm. Rubbing in will exhibit all the symptoms seen to result from its inward application.

Mr Henry Giles, surgeon, near Stourbridge, saw Jane Genever after death, and was of opinion that death had been occasioned by mortification arising from the effects of mercury.

Cross-examined.—Some subjects are more irritated by mercury than others. Nitric acid is a remedy for that.

Mr Cooper, on being recalled, said he had seen the hands of deceased's mother, and that they were blistered from having rubbed the children's heads, and that, therefore, the preparation must have been exceedingly strong.

Cross-examined.—Nitric acid would have produced the same irritation. It is never used in a strong form. Mercury is exhibited occasionally in a crystalline form.

Mr Yardley urged, that the preparation, which had occasioned the death, was stated to be "to the jurors unknown," whereas nothing was clearer than that it was mercury, an objection which his Lordship overruled. Mr Yardley then addressed the jury for his client.

The Judge summed up, and a Verdict of NOT GUILTY was returned.

No evidence was offered on the second indictment.

POISONING BY A QUACK, IN ANTIGUA.

[The following case is important. The ease with which poisoners escape from justice, in face of the clearest evidence, must, sooner or later, call for special legislation. The MS. reached us from the West Indies, in a letter with the Antigua post mark. The author ought to have given his name.]

ANTIGUA, July 10, 1845.

SIR,—If you think the accompanying report worthy of a place among your records of cases in Medical Jurisprudence, you will oblige a constant reader by giving it insertion.—Your obedient servant, F. N.

To Dr Cormack.

A coroner's inquest was lately held on the body of a poor woman, whose death occurred under the following circumstances:—She had laboured under chronic periostitis for several years, and was induced to visit, in company with some of her neighbours, the Dispensary of a certain practitioner who has lately established himself in this colony, and acquired a reputation for the cure of all sorts of diseases, whether the offspring of natural causes or of *witchcraft*, which have hitherto been considered *opprobria medicorum*. She returned with two powders, and a porter bottle not quite full of a certain mixture, of which she was directed to take a wine-glassful three times a-day. The poor woman took one of the powders, and part of the mixture, after which she was attacked with violent vomiting and purging, which terminated in death on the morning of the fifth day. The immediate consequence of this event, was a great commotion amongst the relatives and neighbours, and an outcry, that the woman had been poisoned, which induced the manager of the estate to give information to the coroner, of the circumstances related above. A jury was assembled, and two other medical men with the person who dispensed the medicine, were summoned to give evidence. The body was opened, and did not exhibit any morbid appearances which could account satisfactorily for the death, except that the lower portion of the ileum was of a diffuse and intense red colour, indicative of a high degree of inflammation. The mixture remaining in the bottle was analysed, and found to consist of a strong solution of iodine.

The first medical witness examined was the person who prescribed and dispensed the medicine. He stated that the deceased had come to him on the Thursday previous, labouring under symptoms of chronic rheumatism and *necrosis* (!):—that he prescribed for her two powders, and a mixture, according to the following recipe, and ordered her to take abundance of animal food, porter, &c.

The powders:—

R. Chlorid. Hydrarg.	gr. xij.
Pulv. Rhei,	ʒss.
Magnesiæ	gr. xv.

M. div. in ch. ij.

The mixture:—

R. Iodid. Potass.	ʒj.
Vini Colchici,	ʒj.
Sp. Æther. Nit.	ʒij.
Tinct. Hyoscyam.,	ʒiij.
Iodini	gr. x.
Aquæ	lbjss. M.

Sig. A wine-glassful three times a-day.

This witness said further, that it was his opinion that her death could not be attributed to the medicine, as it was perfectly innocuous, and the whole quantity prescribed might be taken at one dose with the utmost safety!!

The other two medical witnesses described the *post-mortem* examination, and the analysis of the mixture, and they differed from the last witness very materially as to the innocuous nature of the medicine. They had both considerable experience in the use of iodine, and esteemed it a valuable medicine in certain diseases, but they had never ventured to give it in doses approaching to that of the prescription referred to by the former witness. One of them quoted Gairdner on iodine, as a treatise which had taught him to be cautious in the use of this remedy, and stated that he had generally used the formula of Lugol, the dose of which was very far short of that prescribed in this case. This witness considered the dose of vinum colchici also excessive, when repeated three times a-day to the extent of an ounce; and both were of opinion that the woman's death was attributable to the severe vomiting and purging occasioned by the mixture.

The coroner was about to charge the jury, when he was interrupted by the person who prescribed, observing, that there was no proof that the deceased had taken any part of the mixture, and that the other medical gentlemen had not analysed the contents of the stomach. These gentlemen replied, that they had considered it unnecessary to analyse the contents of the stomach or bladder, because the prescription had been shown to them, and at that time it was not doubted that the deceased had taken it. An attempt was made to elicit from other witnesses proofs of the mixture having been taken, but they prevaricated so much that the jury rejected their testimony. All the witnesses agreed as to the effects produced, excessive vomiting and purging, but no one proved to the satisfaction of the jury that they had *seen* the deceased take the medicine. It was several hours before the jury came to a decision, but at length the following verdict was returned,—"That the deceased died from exhaustion, produced by excessive vomiting and purging, the cause whereof did not appear."

Lozenge Adulteration in Scotland.

It would appear, from a printed document that has been put into our hands by a member of the United Association of the Journeymen Confectioners of Edinburgh, Glasgow, Aberdeen, Perth, St Andrews, Leith, Arbroath, and Dundee, that a substance called "Mineral White"—which is simply *plaster of Paris*, or *stucco*—is largely used in the manufacture of confections, and that the working men have come to the resolution of exerting their power to put an end to this sort of adulteration. They have begun by procuring, from Dr Reid of Edinburgh, an analysis of certain lozenges in which the noxious substance has been used. The doctor says—

"One hundred grains of the lozenges, dissolved in distilled water, gave a very turbid white solution. By filtration, all the soluble matter was removed, and there remained on the filter fifteen grains, with a small fraction of a grain more when thoroughly dry.

"The matter required nearly 500 parts of water for its solution, and is the same as the article sent by you, and named mineral white.

"The amount of adulteration is then equal to one-sixth part, and two-thirds in the hundred; or striking an average of the weight of the lozenges, and reckoning six on the hundred grains, (as I find that 130 lozenges weigh each nearly 16·850 grains, or in round numbers, about 17 grains), each lozenge contains two grains and a half of the sulphate of lime, (or *plaster of Paris*, or *stucco*, —different names for the same thing). This quantity—to wit, two grains and a half of the sulphate of lime—is about as much as is found in three ounces of the hardest water, rendered so by that earth lime, and accordingly the small number of six, (100 grains weight), contain nearly as much *plaster of Paris* as can be dissolved by an imperial pint of water."

The Association, to put a stop to this practice, have resolved,—

1st, That as mineral white is unwholesome and highly injurious, that it be entirely abolished from this date, as an adulteration in the confectionary trade.

2d, That committees wait upon the masters to get their signatures, if they agree with the above resolution.

3d, That committees warn the masters using the above mineral white, that the journeymen are firmly resolved to remain in combination until it is entirely abolished, and that they shall purchase goods from time to time from any one individual, whom they may suspect to make use of it, and that they shall have them analysed, and if found to contain the mineral, taken before a magistrate.

4th, That decisive steps be taken to carry the first resolution into effect; but it is hoped that no legal means will require to be resorted to.

5th, That we shall aid by all means in our power, either pecuniary or *otherwise*, that the foregoing resolutions be carried into effect.

There is only one other step for the Association to take; they should publish widely the names of the masters who have agreed to support them, and the names of those who have refused. Of all the confectioners in Aberdeen, only *three*, we believe, have refused to pledge themselves against the use of *stucco*.—*Aberdeen Herald.*

Adulteration of Veratrine with Lime.

According to M. Versmann, the Veratrine of commerce frequently contains lime, resulting from the employment of lime in its preparation. A small quantity of lime, moreover, facilitates the drying, and renders the preparation more beautiful. It is easily detected on incineration, and is best removed by dissolving the veratrine in spirit, precipitating with sulphuric acid, filtration, driving off the alcohol, and precipitating the veratrine with ammonia.—*Buchn. Rept.* vol. xxxv., p. 101, and *Chemical Gazette* for February 15, 1845.

Marchand's Test for Strychnine.

In our Number, November 1844, we noticed the new test proposed by M. Marchand for the detection of minute quantities of strychnine. The importance of this subject in medico-legal inquiries induces us to give the following satisfactory confirmation accorded to it by Drs Erdmann and Marchand. They state that they found the re-action very beautiful and distinct on employing pure strychnine, even when the quantity of the alkaloid was extremely minute. With a mixture of 12 grms. of milk and $\frac{1}{2}$ milligramme of strychnine, peroxide of lead produced, in the liquid filtered from the coagulated caseine, a distinctly red colour, which at first possessed a slight violet tint. They, moreover, observe, that it is not advantageous to employ the sulphuric acid in a concentrated state, but diluted with about one-fourth water.—*Journ. für Prakt. Chem.*, April 1844.

PART FOURTH.

MEDICAL NEWS.

OBITUARY.

THE LATE PROFESSOR GRAHAM OF EDINBURGH.—It is with sincere sorrow that we announce the death of this distinguished individual. The mournful event took place at Coldoch, in Perthshire, on the 7th of August, after a painful and protracted illness, which he bore with calmness and Christian fortitude.

Robert Graham, M.D., F.R.S.E., Professor of Botany and Medicine in the University of Edinburgh, the third son of Dr Robert Graham, afterwards Moir of Leckie, was born at Stirling, on 7th Dec. 1786.

In the first part of his career, he practised in Glasgow, where he was highly respected, and very popular. In 1818, he was appointed Professor of Botany in the University of that city. Previous to that time, there was no separate chair of Botany in Glasgow. The Professor of Anatomy, by his commission, was also Professor of Botany: he was bound to lecture on Anatomy during the winter, and on Botany during the summer session. Dr Jeffray, the present Professor of Anatomy, lectured occasionally on Botany; but subsequently, a separate lectureship was established. Dr Thomas Brown of Langfine held this office for some time. Before retiring, he asked Dr Graham to lecture for him, which Dr Graham declined to do, urging as an apology, the inadequacy of his Botanical knowledge; but ultimately, he was prevailed on to read Dr Brown's lectures. On the resignation of Dr Brown, the Crown instituted a distinct chair of Botany, and conferred it upon Dr Graham, who was in the habit of referring to this appointment as an unexpected event, on which his future success in life depended. He held this office till his translation to the chair of Botany in the University of Edinburgh, in 1821.[1] From this time, Dr Graham devoted himself assiduously and successfully to Botanical pursuits. To his exertions, Edinburgh is in no small degree indebted, for the excellent Botanical Garden which she now possesses. By his enthusiasm and energy, as well as by his affable and pleasing manners, he did much to promote a taste for his favourite science, among the pupils of his class.

Under his auspices, the Edinburgh school became famous for the number of accomplished and zealous cultivators of botanical science which it sent forth, many of whom now occupy the most distinguished places as professors, teachers, and collectors. One of the chief circumstances which tended to bring about these results, was Dr Graham's practice of taking excursions with his pupils, not merely in the neighbourhood of Edinburgh, but in various districts of Scotland, England, and Ireland—excursions to which, as we well know, his pupils look back, with feelings of the highest satisfaction and delight. The first long excursion was made in 1826, when Sutherlandshire was the district explored. In 1827, he paid another visit to the same county, accompanied by several pupils. These excursions were continued annually in the month of August; and in this way were explored the Floras of various parts of Scotland, such as Clova, Glen-Isla, Braemar, Benlawers, the Breadalbane districts, Wigtownshire, Ross-shire, &c. The Floras of Cunnemara in Ireland, and of North Wales, were also, in this way, carefully examined. In all these excursions, the Professor was ably assisted by Mr M'Nab, the excellent superintendent of the Edinburgh Botanic Garden. During the excursions several additions were made to the Flora of Scotland; among some of which may be mentioned, *Astra-*

[1] Dr Graham was succeeded in Glasgow by Sir William Jackson Hooker, (at that time Dr Hooker,) who, upon his appointment to Kew, resigned the chair, which was bestowed upon Dr J. H. Balfour, the present incumbent.

galus alpinus, *Lychnis Alpina*, *Carex Vahlii*, *aquatilis*, and *Rupestris*, *Thlaspi alpestre*, *Salix arenaria*, and *Ononis reclinata*.

No one enjoyed these trips more than the Professor; and no one was better able to endure their attendant fatigues and hardships. His walking powers were unrivalled; his constitution seemed to be one of the most robust; and by all who knew him, he was regarded as one likely to enjoy long health, and attain a good old age.

Dr Graham was long engaged in preparing a Flora of Britain; but he died without being able to give it to the world. His published works consist chiefly of descriptions of new and rare plants, which flowered in the Edinburgh Botanic Garden. These, as well as notices of his excursions, appeared in the *Edinburgh New Philosophical Magazine*, and *Curtis's Botanical Magazine*. He also published, *Hooker's Companion to the Botanical Magazine*, an account of the Gamboge tree of Ceylon, which he named *Hebradendron Cambogioides*.

A *genus* of Chilian plants has been called Grahamia, by Gillies, in honour of the deceased Professor; and several *species* of plants have also been named in a similar manner, among which we would particularly mention an Alpine species of *carex*, found in Clova, the scene of many of Dr Graham's excursions, and designated *carex Grahami*, by Brott.

Some years ago, Dr Graham began to experience some peculiar sensations in his chest, which he attributed to incipient disease of the heart, or great vessels. They gradually became more marked, and were ultimately accompanied by severe pain and occasional spasms. It soon became evident, from various symptoms—especially from his diminished strength, and increasing emaciation—that he was the subject of organic disease; but of what precise nature his physicians were unable to decide, from the extreme obscurity and ambiguity of some of the signs. They were latterly of opinion, that the symptoms were referable to a malignant tumour deeply seated in the chest or abdomen.

Amid all his sufferings, Dr Graham continued to the last, to take a lively interest in Botany. At the beginning of May, he appeared for the last time in his class-room in the Garden; upon which occasion he introduced Dr Hooker to the students, as his substitute for the season.

Finding his end approaching, he expressed a wish to go to Perthshire; and was accordingly conveyed to Coldoch. He there breathed his last, on the 7th of August. Upon examining the body after death, an encephaloid tumour was discovered in the posterior mediastinum, lying close to the vertebræ, pressing on the vessels, thoracic duct, &c., and extending to the diaphragm. Thus terminated the career of one, who had contributed, in a great degree, to advance the fame of the University of Edinburgh, by the numerous enthusiastic students whom he sent forth, to prosecute Botany in every region of the globe,—one whose kindness and genuine frankness of manner endeared him to all who came in contact with him, in the various relations of teacher, hospital physician, and friend,—one of whom it may be truly said, that while he was eminently conspicuous as a successful and able Professor, he was not less distinguished by his candour, straightforward conduct, scrupulous honour, and unswerving rectitude.—B.

DEATH FROM ACONITE OF DR MALE OF MANCHESTER.—This excellent practitioner died three weeks ago, from the injudicious use of *aconite*, taken for the relief of neuralgic pains. The perusal of a recent work is said to have induced him to experiment upon himself with this agent, so potent for good or evil. The *Provincial Medical and Surgical Journal* (Aug. 20), well remarks:—"This unfortunate case should prove a warning to every medical practitioner, as well in the pursuits of his ordinary professional avocations, as in inducing him, when suffering from serious illness, to have recourse to the advice of some brother practitioner."

COMMUNICATIONS HAVE BEEN RECEIVED FOR INSERTION SINCE LAST MONTH, from Professor A. T. Thomson, Professor Pagan, Dr Cogswell, and Mr Donaldson. The papers of Professor Pagan, and Dr Cogswell, will be illustrated by woodcuts.

ERRATA.

Page 658. In letters of explanation to Woodcut No. 1, C indicates Intestine; and B, Ribs of Fœtus.
,, 661, line 5, *for* two *read* one.
,, 663, ,, 21, *for* a *read* a.
,, ,, In foot note, *for* mutation *read* nutrition.

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THE

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PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Surgical Cases and Observations.* *By* JAMES SYME, ESQ., *Professor of Clinical Surgery.*

NO.—XXIX. HYDROCELE.

J. D., aged 24, from Denny, was admitted on the 1st of January, for enlargement of both testicles, complicated with hydrocele and ulceration of the scrotum. These complaints were attributed by the surgeon who sent him from the country to improper excitement of the generative organs, and were stated to have existed about two years. Both sides of the scrotal tumour were of nearly equal bulk, the left being solid, and dependent upon swelling of the testicle to the size of a small fist; while the right consisted of fluid to more than half of its extent. The ulceration was superficial, occupying a small space at the base of the scrotum.

On examining the hydrocele more particularly, I felt that it could be diminished by pressure, and therefore made the patient take the horizontal posture, when it became very evident, that the swelling extended into the abdomen, so as to form a well-defined oval tumour, obvious to sight and touch, ascending nearly to the umbilicus. A slight degree of pressure emptied the scrotal part of the bag, rendering that within the abdomen more tense; and when the latter was compressed, or the patient stood erect, though the abdominal tumour did not disappear, it became less distinct, while the external one became more fully distended. When the two parts of the swelling were compressed alternately, a distinct fluctuation was perceived between them.

Through the use of hydriodate of potass, and the occasional em-

ployment of a full-sized bougie, the testicles regained their natural size and consistence to a considerable degree; but no real diminution took place in the hydrocele, though the deceptive effect of changes in respect to the distention of the bowels made its size appear to vary. On the 30th, I introduced a trocar, and drew off twenty-eight ounces of fluid, completely emptying both parts of the cavity. On the 10th of February, as the water had again accumulated so as, in the erect posture, to distend the scrotum nearly to its former extent, I repeated the evacuation,—which now afforded only three ounces,—and then injected two drachms of the tincture of iodine. The usual swelling and other symptoms of excitement followed for a few days; and after they subsided, there was no return of the fluid.

This case derives interest, not only from the extreme rarity of the form in which the disease presented itself, but also from the light which it throws upon another morbid condition of more frequent occurrence. It is plain that the hydrocele occupied the cord, and not the tunica vaginalis—since, in the latter situation, the fluid would have surrounded instead of lying, as it did, entirely above the testicle; and if it had had access to the cavity of the peritoneum, would not have been circumscribed within the limits of a distinct tumour. In a patient, whom I saw with the late Mr George White, for ascites with double hydrocele, the fluid of the different cavities communicated through a narrow passage in the inguinal canals, and I evacuated the whole, amounting to several gallons, by tapping one of the hydroceles. The water must here have been contained in the vaginal processes, which had retained their original communication with the peritoneum. But in the case above related, the abdominal part of the swelling must have been seated in the cellular texture enveloping the spermatic vessels, and externally to the peritoneum. Now, hydrocele of the cord is frequently met with during infancy and early childhood, when it is very apt to be mistaken for rupture, in consequence of the testicle being felt lying quite free at the bottom of the tumour; and the risk of this error is greatly increased, when, as occasionally happens, the tumour diminishes or disappears upon being subjected to pressure, or when the patient is in the horizontal posture. But it is especially to guard against the erroneous diagnosis which thus results, that the present case seems to deserve attention; as it shows, that in hydrocele of the cord, accommodation for the fluid may be afforded within the abdomen, and renders it probable, that what was thus ascertained to take place on a large scale, may be of less unfrequent occurrence to the smaller degree requisite for explaining the temporary disappearance of the swelling caused by hydrocele of the cord, through the influence of pressure or the horizontal posture.

NO. XXX.—HARE-LIP.

Margaret Thomson, aged 16, from Arbroath, was admitted upon

the 5th of December last, on account of a hare-lip presenting very remarkable characters. It appeared, that during her childhood three attempts had been made, by a surgeon now no more, to unite the edges of the fissure, but unhappily without success; and that, in consequence of these operations, the lip was almost entirely destroyed. At the left angle of the mouth, indeed, no part of it remained; and on the right side, there was a mere vestige, not exceeding the quarter of an inch in extent. It may be added, that the respective surfaces were firmly condensed, and seamed with scars resulting from the old incisions and sutures. The deformity and inconvenience occasioned by this state of parts, which not only exposed to view the gums and cavity of the nostril, but seriously impeded mastication and articulation, rendered the patient very desirous of relief; and I resolved to perform the following operation with the view of affording it, though at first sight the case had certainly seemed quite hopeless.

I commenced as usual by cutting a slice of the lip, freely away from each side of the fissure, including all the indurated substance, so as to expose the natural texture of the part. An incision was then made from each angle of the mouth, transversely through the cheek, slightly inclining upwards, and extending rather farther on the left than the right side. These incisions were about an inch and a quarter in length. The edges of the fissure now admitted of being brought together, without any straining or puckering of the lower lip. They were secured by a needle at their lower extremity, where forming the margin of the mouth, and by two stitches of the interrupted suture through the part above this point.

Perfect adhesion took place between the edges of the fissure, while the transverse incisions united together from their outward extremities to the angles of the mouth, and healed throughout the remaining part, so as to form a lip in every way seemly and serviceable, the mouth having a natural appearance, neither too large nor too small, and there being no deformity of the cheek. The patient was dismissed on the 31st.

NO. XXXI.—LITHOTOMY IN THE FEMALE.

Mrs ——, aged 45, from Wick, was admitted upon the 10th of June, on account of stone in the bladder, from which she had suffered the usual symptoms for ten months. On the 12th, after dilating the urethra by the successive introduction of bougies, gradually increased in size, I passed my finger into the bladder, and divided the ring at its orifice, outwards and downwards, by means of a straight bistoury. This incision was of very small extent, hardly exceeding the breadth of the blade, which was rather narrow. The textures then readily yielded, so as to allow me, without the use of violence, to introduce the forceps, and extract a stone about the size of a chesnut. Not the slightest inconvenience fol-

lowed the operation. The patient regained the power of retaining urine in the course of eight days, and returned home quite well on the 23d.

Lithotomy in the female affords an instructive illustration of the principle on which this operation may be performed with safety on the male. The parts are nearly in the same state, so far as the obstacles to extraction are concerned, as those of the male after the incision of the perineum has been completed, and as if the prostate were also completely divided. However much the facility and rapidity of the operation may be promoted by cutting instead of tearing the textures thus far, it does not appear that the choice of these means materially affects the patient's chance of recovery, provided the opening from the skin to the prostate be made sufficiently free. But in both sexes, there is still an obstacle remaining which admits of ready removal by incision, and cannot be overcome by tearing without almost certain death. This is the sensitive ring which surrounds the neck of the bladder, at the base of the prostate in the male, and at the corresponding part in the female. Bilateral and extensive incisions are altogether useless and improper, since the space required is obtained not directly through the extent of parts cut, but by the yielding of the textures through tearing and separation of their fibres, after the unyielding ring has been divided.

In dilating the urethra, to accomplish any of the purposes which require its capacity to be temporarily increased, I find no means so convenient as the introduction of bougies. This may be done in rapid succession, so as to attain the object in a few minutes, without causing any pain whatever.

NO. XXXII.—LACRYMAL CALCULUS.

A farmer from the neighbourhood of Carlisle, 37 years of age, applied to me on the 28th of August, on account of an obstruction in the lacrymal passage, which he had been told would require the introduction of a style. He stated, that between four and five years ago, he had let a little lime get into the eye, and in consequence suffered some uneasiness, which did not afterwards completely subside, and, three years since, had induced him to apply for medical advice. Various ointments and other applications having been tried, without affording any relief, his mind was at length made up to suffer the operation that seemed requisite, under the impression that his complaint depended upon obstruction of the tears.

I found considerable swelling and redness at the inner angle of the eye, and, when pressure was applied here, a discharge of turbid fluid from the lower punctum. On more careful examination, it appeared that the swelling was not in the situation of the lacrymal sac, but rather in the duct leading to it from the inferior punctum; and I also ascertained, by passing a probe from the nostril upwards,

that the nasal duct was perfectly free. I therefore introduced a gold probe into the inferior punctum, and immediately detected a concretion, which was readily extracted, after the orifice and adjoining part of the sac into which the duct was dilated had been opened sufficiently by fine-pointed scissors. It was about the size of a barley-pickle, of an irregular form, with tuberculated surface, and of a dark brown colour, so as very much to resemble a mulberry calculus in miniature.

This case is the only one of the kind that has fallen under my notice.

ARTICLE II.—*On the Postfebrile Ophthalmitis. By* ANDREW ANDERSON, M.D., *Anderson's University, Glasgow, one of the Surgeons to the Glasgow Eye Infirmary.*

INTRODUCTORY OBSERVATIONS.

IN the *Medical Gazette* for October 1843, there appeared, from the pen of Dr Mackenzie, a paper descriptive of a peculiar form of ophthalmia, consequent on the fever then epidemic in Glasgow. This "Postfebrile Ophthalmitis" had been noticed to occur in Dublin in 1826; but nowhere does it seem to have been so prevalent as in Glasgow during the past years. The disease had not reached its height when Dr Mackenzie published his account of it;—it has now disappeared; and though I do not hope to add much that is of importance to his short and comprehensive notice, I yet think that it may be useful to supply the statistics, which, from the date of his writing, he could not give; and to draw up from my notes of the cases which I have treated, a summary of all the symptoms and lesions that I have observed; and these, I venture to say, will be found somewhat interesting.

PART I.—GENERAL HISTORY OF THE DISEASE.

1. *Mode of Onset.*—The postfebrile ophthalmitis is, as we shall see in the sequel, of specific nature, bordering on the rheumatic and arthritic ophthalmiae, and having much analogy to those general inflammations of the eye which are found to follow typhus and puerperal fever. The purulent, the syphilitic, and the scrofulous opthalmiæ lie further off; and yet there are cases in which the postfebrile affection shades into these.

Of the precedent fever, I shall not say one word, referring simply to those numerous descriptions of it which have lately appeared; but in particular to those by my friends Dr Cormack and Dr Halliday Douglas.[1] It will be recollected, that one great characteristic of

[1] Cormack's Treatise, 8vo. London: 1843;—and H. Douglas, in Northern Journal of Medicine, 1845.

this fever was the almost invariable occurrence of one or more relapses: now, of 114 cases of the ophthalmia, the disease followed

The first attack of the fever in	13	
The first relapse in	75	
The second relapse in	25	(Case 48.)
The third relapse in	1	
	114	

There was not always an interval of time between the end of the fever and the onset of the ophthalmia, and that which usually occurred was of very various length: Thus, of 135 cases, the symptoms (amaurotic or inflammatory) of the affection of the eyes began

During the fever or relapse in	10	(Case 27.)
At once upon the convalescence in	34	
Within a fortnight of the convalescence in	29	
Within the following month in	31	
Within the next 5 or 6 months in	31	(Case 22.)
	135	

The last mentioned is the longest period that I have known to elapse; and it is plain, that the sequela most frequently occurs immediately upon, or very shortly after, the cessation of the fever.

The following is the order of the symptoms in the 10 cases in which the disease of the eye began before convalescence from the fever:—

1. Case 9. It began at the outset of the fever with ocular pain, and gradually increasing amaurosis.
2. Case 13. The eye was weak from the beginning of the fever—amaurosis followed.
3. Case 56. Amaurosis during the fever; inflammation afterwards.
4. Case 27. Amaurosis during the relapse.
5. Muscæ since premature labour in relapse.
6. Pain in relapse; scarcely any amaurosis.
7. Amaurosis after first relapse; pain after second.
8. Amaurosis during the fever, disappearing; inflammation after the relapse.
9. Inflammation during the fever, disappearing in eight days, but returning in a month.
10. Inflammation between fever and relapse.

The most frequently observed course of the symptoms is as follows: Usually, at a variable time after recovery from the fever, the patient begins to complain of the presence of muscæ volitantes, or sometimes of more or less general obscurity, before the eye; and after some time, the organ becomes inflamed. The amaurosis now increases, while the muscæ are no longer discerned; and the blindness may be so great, that there remains merely the perception of light and shade. There is no observable part of the eye which I have not seen altered by the disease; and permanent deformity of the eye-ball, with total blindness, may ensue. (Cases 3, 4.) During the cure, the muscæ are again perceived as the amaurosis abates, and they often persist with extreme obstinacy.

This progression of symptoms is, however, far from being uniformly observed; and as we trace the history of the disease, we shall find the greatest variety in its accession and continuance.

Thus, of 108 consecutive cases of which I took careful note, there was

Amaurosis without inflammation in	8
Inflammation without amaurosis in	5
Pain occasionally only in	2
The amaurosis and pain began together in	13
The amaurosis followed the pain in	8
The pain followed the amaurosis in	72
	108

Of the 72 cases coming under the last head, the pain followed the amaurosis

Within a day, in	3
Within the week following, in	24
Within the month after this, in	20
Within the subsequent half-year, in	25
	72

The longest period which I have noticed to elapse is eleven months. (Case 14.) In two cases (Case 62) the amaurosis has already lasted a year and a half without any inflammation taking place. The result of my observations does not then agree with that deduced by Mr Wallace from his study of the disease in Dublin (*Med. Chir. Trans.* xiv.); for, says he, "it is to be particularly observed, that I have never seen a case in which, upon strict inquiry, amaurotic symptoms, more or less strongly marked, have not preceded the inflammatory symptoms. This is in fact one of the most remarkable characters of the disease." In two-thirds only of the above 108 cases did this rule hold good.

2. *Statistics.*—From August 1843, when the first case occurred, to February 1845, exactly 265 patients suffering under the disease in question presented themselves at the Glasgow Eye Infirmary. It is interesting to compare the rise, progress, and decline of the epidemic itself, as taken from the books of the Glasgow Fever Hospital, with those of its sequela; and from the following table it will be seen that the latter followed the fever at an interval of about five months.

During the quarter now ended, (May 1845), no cases have been admitted: the disease may therefore fairly be thought concluded; and it will be seen that the peculiar epidemic fever broke out in March 1843,—the ophthalmitis first appeared in August:—the fever culminated in July,—the ophthalmitis in December and January. The fever disappeared in June 1844, and the opthalmitis, setting aside a few sporadic cases, ceased in October of the same year.

	Fever Cases.
January 1843	100
February	99
March	155
April	231
May	374
June	331
July	489

	Fever Cases.	Cases of Ophthalmitis.	
August	427	5	
September	354	8	36 Dr Mackenzie.
October	435	23	
November	266	34	
December	292	40	120 Dr Anderson.
January 1844	224	46	
February	156	23	
March	140	24	69 Dr Mackenzie.
April	132	22	
May	126	15	
June	111	6	29 Dr Anderson.
July	82	8	
August	93	3	
September	66	3	6 Dr Mackenzie.
October	32	0	
November	81	0	
December	67	1	5 Dr Anderson.
January 1845	...	4	
		265	

The following table comprises, besides the cases included above, one which occurred to me in private, and fifteen, the notes of which have been kindly handed me by Dr A. M. Adams, in whose district they occurred.

Age.	Males.	Females.	Total.	
Under 10 years	5	7	12	
Above 9 and under 20	40	57	97	193
„ 19 „ 30	35	49	84	
„ 29 „ 40	28	16	44	
„ 39 „ 50	15	10	25	
„ 49 „ 60	8	5	13	87
„ 59 „ 70	2	0	2	
Age not recorded ...	0	3	3	
	133	147	280	

Of the 30 cases recorded by Dr Jacob (*Trans. of the Association, &c.* v. 294), three only of the patients were above 25 years old.

3. *Eye affected.*

The right alone in	115 cases.
The left alone in	111
Both in	54
	280

These numbers differ very much from those given by Mr Wallace, who agrees with me in finding, that the sexes are nearly equally liable to the disease; but states that of 40 cases, there were but 4 in which the left eye alone was affected, and only two in which both were engaged.

It may be interesting to record the way in which the symptoms advanced, in the 30 patients under my care, in whom both eyes were diseased. There occurred

Amaurosis of both eyes at once, in	1	
Ditto, with cataractous opacity, in	1	(Case 27.)
Inflammation of both eyes at once, in	4	(12.)
Ditto, consecutively, in	2	(28, 6.)
Amaurosis of both, inflammation of one, in	5	

Ditto with restoration of sight to one eye when the other became inflamed,	2	
Inflammation of both, spontaneous recovery of one,	1	(23.)
Catarrh of both, inflammation of one,	1	
Inflammation of one eye during the treatment of the other,	4	(48, 32.)
Ditto, after the cure of the other,	6	(20, 60.)
Ditto, after the loss of the other,	1	(3.)
Amaurosis of left eye, disappearing when the sight of the right eye became dim three weeks after. The restoration of the right eye two months subsequently, being followed in three weeks by inflammation of the left,	1	(52.)
Inflammation of one eye, followed by amaurosis of both,	1	(11.)

In the case of one woman, fever occurred in July 1843, and was followed by ophthalmitis of the left eye, for which she was admitted under Dr Mackenzie in September; early in October, she had a second attack of fever; and in March 1844, was again admitted, labouring under postfebrile inflammation of the right eye; the left having recovered.

4. *Exciting cause.*—In most cases, the first attack was, as Dr Mackenzie notices, attributed to exposure to cold, (Cases 46, 55), and that even in some of the cases in which it took place before convalescence from the fever. In a few instances the first, or amaurotic symptoms, seemed to arise spontaneously, and the subsequent inflammation to be owing to cold; while in one or two the first exposure brought on the amaurosis, and a subsequent one the inflammation. In one case the inflammation followed the receipt of an injury, but presented all the characters proper to the postfebrile ophthalmitis.

I shall now proceed to detail the symptoms, in connexion with the organic lesions which the eye has been observed to present; and notice what seem to be their pathological relations.

PART II.—PHENOMENA OF THE DISEASE.

Div. I.—*Affections of the Mucous Membrane.*

A.—*Ophthalmia Catarrhalis.*—In some cases the postfebrile approaches very nearly to simple catarrhal inflammation, being distinguished only by slight occasional supra-orbital pain—vision being perfect,—and the ordinary treatment by purgatives and astringent collyria being sufficient to effect a cure.

B.—*Ophthalmia purulenta.*—In two children the disease took this form; and was treated and cured accordingly. (Case 5.)

C.—*Ophthalmia scrofulosa.*—In one instance (Case 6,) pure ophthalmia scrofulosa followed the fever; in others, in which the patient had formerly suffered from the strumous disease, there seemed a combination of this with the proper postfebrile affection. (Cases 7, 8, 39.)

D.—There was sometimes considerable *tarsal irritation* (Cases 55, 14); which also occasionally occurred in scrofulous persons, on the cure of the more deeply seated disease.

E.—In most cases, the conjunctival inflammation was merely

secondary; in few was it altogether absent; but was more or less intense, without any constant relation to the more deeply seated disease. The vascularity around the cornea was sometimes merely conjunctival; and I have seen the conjunctiva vascular *except* in the zone around the cornea. In a few instances, while there was deep sclerotic injection, the conjunctiva was bloodless. The injected vessels may stop abruptly at the edge of the cornea, forming an elevated margin, (Case 57,) when the grey peripheral ring which Jones and others have described is also usually seen. More commonly the vessels shoot into the corneal conjunctiva, and fill this semitransparent ring with their fine converging twigs. The conjunctiva corneæ is rarely further affected, and that chiefly in the cases which partake of a scrofulous character, (Case 9), when the disease much resembles the untractable strumous corneo-iritis.

Belladonna, used internally and externally, seldom fails to afford relief from the irritation and epiphora which these lesions cause; and it may be freely employed in the presence of the internal ophthalmitis, which often forbids the application of stimulating collyria.

Div. II.—*Affections of the Fibrous Membrane.*

These produce the most prominent symptoms; the amaurosis being in fact often neglected by the patient, till the access of sclerotitis, with its intense ocular and circumorbital pain, forces him to seek relief.

§ I. *Of the Sclerotic.*

This membrane is in the great majority of instances inflamed, when we find the usual radiating redness, and pain more or less severe.

A.—*The Redness.*—In a few cases there was no vascularity, even after the pain had come on; and in one, (Case 10), deeply-seated opacity in the eye, and almost total blindness occurred, without any injection at all. As a general rule, the amount of sclerotic redness is in proportion to the degree of internal inflammation;—and I have often seen the cornea surrounded by a broad band of a dingy pink colour, in some of those cases in which the vitreous body had suffered; this redness is much less bright than that of common catarrho-rheumatic ophthalmia. In other cases, the larger vessels of the sclerotic are distended with blood, (Case 16,) and sometimes when, the acute stage being over, the inflammation has become more or less asthenic, they are found turgid from passive congestion, (Cases 18, 35,) so as to contrast well with the bright red of the conjunctival network.

B.—*The Pain.*—This is usually present during the acute stage; and is commonly increased at night, though in a few cases (Case 60), it was most severe in the day-time. In one instance, it came on periodically, in the morning and evening, (Case 12.) Pain may occur when there is no objective symptom whatever, or may be absent even while the iris is forming adhesions to the capsule of the

lens. Circumorbital pain and hemicrania are usual forms when the pain is severe; but the part most commonly complained of is the upper half of the eyeball, which is ordinarily more or less acutely tender, and sometimes more vascular than the rest of the eye. The pain may disappear spontaneously, even while the disease is making progress.

§ II.—*Of the Cornea.*

A.—*Corneitis Scrofulosa.*—This occurs after fever in circumstances similar to those in which I have noticed strumous conjunctivitis to present itself. I have seen it several times in boys; in one of whom the whole of each cornea, except one opaque point in the centre, became intensely red.

B.—*Simple Corneitis.*—I saw in three or four cases; though in many of the severest the cornea remained clear; in one it became deformed and prominent; in two, after the inflammation disappeared, it was found contracted and shrunken (Cases 3, 4); in a few cases (8, 32, 40,) there was opacity seemingly of its proper fibrous substance.

C. *Ulcers.*—It will be evident from the above description, that many of the cases bore a strong resemblance to those of catarrho-rheumatic ophthalmia; the great point of diagnosis being, according to Dr Mackenzie, that the proper membrane of the cornea is frequently ulcerated in the latter, in the former never. Two of my cases form an exception to this general statement; in one of these (Case 13), the ulcer was almost the only lesion which existed on admission; in the other (Case 14), there were, besides acute general inflammation of the eye, two ulcers near the edge of the cornea.

D.—*Onyx* and *sloughing* of the cornea took place twice. In the first case the patient, a man aged 40, was not seen till the cornea had given way; in the other, (Case 15), the lower half of the cornea was infiltrated with pus for three days before it sloughed.

Div. III.—*Affections of the Serous Membrane.*

The aqueous membrane is often found muddy (Case 18,) and speckled with dots of lymph (17,); once I saw it marked with fine striæ, (18.) In some cases (4, 16, 18,) the aqueous humour was also turbid from the mixture of effused lymph.

I frequently observed, as did also Dr Jacob and Mr Wallace, a small opacity at the lower edge of the cornea; this sometimes seemed an effusion into its substance; but in a few cases was evidently rather a hypopion, as it changed its level with the motion of the eye. In all instances, it disappeared readily under treatment. (Cases 16, 18, 31.)

Div. IV.—*Affections of the Iris.*

Our disease is not a simple iritis; for there exists no constant relation between the degree of the inflammation and that of the amaurosis present; the retina is often almost insensible to bright light, while the appearance and motions of the iris remain quite

natural (Case 54); but we find that when inflammation does come on, the iris is usually more or less affected. Let us trace the alterations it undergoes.

§ I. *Changes in its Structure.*

A.—*Effusion of Lymph.*—The face of the iris is often dull during the inflammatory stage—an appearance which, on inspection with a lens, is seen to depend on a tomentose state of the layer of fine cellular tissue, which, according to Henle, covers the muscle. The beautiful fibrous structure of the organ is no longer perceived, while its pupillary edge has lost its sharply defined and crenated margin, in consequence of the effusion of a thin stratum of lymph around it and on the surface of the now cloudy capsule. (Cases 3, 16.) As the pupil contracts, adhesions of the iris to the capsule may result; an accident to be guarded against by the timely application of belladonna; and such adhesions I frequently met with, though none occurred to Dr Jacob. Under appropriate treatment the ring of lymph around the pupil, and the cloud in the centre, clear away, displaying the more deeply seated parts which they had previously concealed. (Cases 30, 32.)

B.—*The Colour* of the iris is observed to change as usual in inflammation; but in a somewhat peculiar way. Dr Jacob remarks that we never see it assume the yellowish green, characteristic of syphilitic iritis; and my observation confirms this statement. In some cases a blue iris becomes green—even a bright grass green; but most commonly it is only darkened, so as to assume a slate or neutral tint shade. This seems connected with congestion rather than inflammation; but even when the latter exists, and the iris is green, the colour is more or less dingy, (Case 57.) Of 22 cases in which an iris naturally blue was altered, it was darkened in 14; of 13 cases where a grey iris had its shade changed, it became greenish in 7, simply darkened in 4, dark green in 1, and brown in 1. The hazel iris is frequently darkened; and though the change of colour is of course less perceptible in a brown iris, I have still observed it in several cases; so that irides of whatever colour tend to have that shade deepened and darkened during the disease. Now and then, however, even when the natural colour is pale, it remains unchanged in the face of severe inflammation;—as in one case in which, though lymph was effused at the margin of the irregular and contracted pupil, the (light grey) iris had preserved its natural hue.

C.—In one instance (Case 9), the iris, after having under treatment resumed its healthy aspect, became again, during a period of neglect and absence from the Infirmary, affected in a more *chronic* manner. It became yellowish and sluggish, and the pupil somewhat contracted, appearances which yielded to a second and gentle course of mercury.

D.—The iris was *vascular* in one or two very severe cases, (Case 4); small specks of blood were in three instances (Cases 18, 3) observed

upon it; and in Case 4, there one day took place suddenly a considerable effusion of blood on the face of the membrane.

§ II. *Changes in its Motor Power.*

In some instances the pupil is, as Dr Mackenzie has remarked, dilated during the early (amaurotic) stage of the disease, (Cases 10, 19, 20, 57); and I have seen it large as well as insensible even when deformed by inflammation (Case 33), in which case it becomes smaller as the cure advances, (Cases 19, 57.) How far this contraction may, in Case 57, be attributable to the free use of opium in the form of Dover's powder, I cannot say.

Yet when inflammation supervenes, the pupil usually becomes more or less contracted, and yields with difficulty or not at all to belladonna, which as the disease abates acquires more power over it; but it remains smaller, less dilatable, and less lively than the opposite one for long after all other symptoms have disappeared, (Cases 21, 33, 36, 41, 47,); at last it may become natural, (Case 55.)

The pupil, again, may be lively though small during the inflammatory stage (Case 25), and this may be its character after the other symptoms have disappeared (Case 60); or it may be quite natural in size and in action during the amaurotic or even the inflammatory period, and that even when the iris is much discoloured (Case 56.) Rarely does it occur that the pupil of the affected eye is more readily influenced by belladonna than that of the opposite one. (Case 29.)

Div. V.—*Affections of the Choroid.*

We shall, in the sequel, see reason to conclude, that many of the amaurotic symptoms, and some of the diseased states of the vitreous body which are observed in the postfebrile ophthalmitis are connected with derangement of the circulation in the vascular choroid; —but as I have had no opportunity of inspecting the eye after death, I am of course not in possession of such accurate information with respect to the diseases of this membrane, as we have in regard to lesions of those parts of the organ which are visible during life. In two cases, however, the choroid was evidently diseased. The first (Case 22,) presented a choroid staphyloma, with disorganization of the eyeballs ending in atrophy; in the second (Case 23,) there existed all the characters proper to chronic sclerotico-choroiditis. The eye, however, recovered from the inflammation, although the cornea remained permanently contracted.

Div. VI.—*Affections of the Ciliary Body.*

It may well be supposed, that the iris and choroid can scarcely be congested or inflamed without the ciliary processes which lie between them being more or less involved; but, withdrawn as they are from direct observation, we are left to infer their condition from the ascertained affection of the neighbouring parts, as well as from the occasional existence of two very curious symptoms which seem,

in my opinion, to be connected with it. I mean asthenopia and myopia.

A.—*Asthenopia*, or inability to keep the eye adapted for any length of time to the vision of objects placed close to it, occurred four times among my cases, preceding, in one instance, the inflammation (Case 14). One patient complained that the effort to adapt the eye caused him pain. In another (Case 3), asthenopia occurred after the inflammation had been subdued, and the objective symptoms had nearly vanished. Three days before it was noticed, he could, by looking steadily at it, just make out small type. On the day referred to, he could read it easily, but could not continue the effort beyond a very short time. In the third case, the asthenopia occurred in the otherwise healthy eye, which could not for a minute be kept adapted to read small type. When the inflammation of the other eye yielded, this symptom disappeared.

B.—*Myopia*, or inability to see distant objects clearly, occurred in six cases, and in all of them during the subsidence of the ophthalmitis. Thus, in Case 31, the patient, on the 22d of January, could read only when the book was placed within four inches of his eye; two days afterwards, he could read easily at the ordinary distance. In Case 32, on the 20th of June, the right eye was myopic, its pupil being somewhat contracted; on the 27th, vision was possible at the natural distance, and the pupil was of its ordinary size. That the contraction of the pupil was not the cause of the shortness of sight, is proved by Case 33, in which, on the 8th of July, there was myopia of one eye, with smallness of the pupil; and yet the adaptive power of the healthy eye was not at all interfered with, by the interposition before it of a diaphragm, with an aperture of the same size as the contracted pupil. Moreover, on the 22d, when vision was perfect at the usual distance, the pupil was still small.

Can we account for the two symptoms I have just been describing? By consulting the report of Case 33, on July 8th, it will be seen, that there was no change in the consistence of the eyeball, or in the shape of the cornea, to account for the shortsightedness; and I think there can be no doubt that both this and the asthenopia observed in other cases, depended on no change of form, but simply on an impairment or loss of the healthy adaptive power of the eye.

The opinion with respect to this adaptive power which, in the present state of science, appears most likely to be true, is that which refers it to a motion forwards of the lens, when the eye is prepared to look at near objects. Valentin has shown, (*Physiologie*, Band II. s. 389,) that an advance of 1-120th of an inch is enough to account for the utmost range of vision: and it seems on the whole most probable, that this change is effected by the agency of the muscular and erectile (?) tissue of the ciliary ring in which the lens is hung.

Asthenopia arises evidently from a weakness of the parts concerned

in this change, incapacitating them for continued action; and its frequently yielding under the use of strychnia shows, I think, that *muscles* are concerned; but the continuance—in the cases we are considering, of the myopia for several days proves, that some organic, though not a permanent, change must have taken place in the parts. In most cases the affected eye could distinguish objects more close at hand than the healthy one could, while by it distant objects were indistinctly seen. In one instance, however, there was only what might be called an absence of far-sightedness. The patient could not, indeed, see distant objects; but neither could he make out those placed within the limits of ordinary vision.

All these facts may, I think, be explained, by supposing the symptoms to depend upon the existence of inflammation or congestion of that part of the choroid coat which forms the ciliary processes. The occurrence of photopsia with asthenopia in Case 3, and with myopia in Cases 31, 35, favours the idea that there was vascular excitement in the deeper parts of the eye; and the pain on looking at near objects which was in one case observed, agrees with the supposition that the organ of adaptation was inflamed. The permanent alteration in the focal distance of the eye in the myopic cases might be accounted for by supposing, that the ciliary body was kept in the state suited to near vision, just as the pupil was permanently contracted. As, however, the pupil may be fixed without the presence of that state of the ciliary body which I suppose to produce myopia, so may the ciliary processes be affected while the iris is lively, as in Case 34. In the same patient, the eyeball was soft, while the myopia existed, and had become firm when that symptom disappeared; but that there is here no relation of cause and effect, becomes, I think, evident, when we reflect that flaccidity of the eye would rather tend to produce presbyopia; and, besides, in Case 35, the softened eyeball had regained its firmness before the myopia occurred. It is much more probable, that both symptoms may be coincident effects of the same cause, viz. a derangement of the circulation in the choroid coat, and in the ciliary body which forms a part of it.

Div. VII.—*Affections of the Anterior Capsule and of the Lens.*

A.—*Specks on the Capsule.*—These are not unfrequently observed on the otherwise healthy membrane. I reckon two kinds of them. The first are *sooty* looking patches of *uvea* (Fig. 1.) left behind when the yet soft adhesions of the iris have been torn away by belladonna; the second are spots of a much *brighter brown* colour, and a more regular shape, being found, not merely towards the edge of the pupil, like the last mentioned, but in its very centre, (Case 2.)

B.—*Vascularity of the capsule.*—This appearance is not very rare—having occurred to me about ten times; and it also presents two distinct forms. The most common is that of the *red tag* of the iris (Case 17), which is an ordinary adhesion provided with bloodves-

sels that go to ramify more or less minutely on the capsule, sending twigs forward towards its centre, (Fig. 2). When belladonna is applied, the iris is of course found to be bound down where the vessels shoot from it into the capsule. The more rare and beautiful form is that of the regular *vascular wreath*, formed of looping vessels that pass from under the iris, and lie upon the margin of the capsule, (Case 25.) In one remarkable case (Case 24,) the pupil, rather large and irregular, seemed to the naked eye to be edged with a dark brown fringe: withdrawn by belladonna, it left the margin of the pupil clothed with beautiful looping vessels, not spreading forwards in branching masses, but forming a compact circular wreath. Under the use of mercury, the inflammation was subdued; the iris became healthy; and vision, which had been lost, was restored; but the vascular wreath, though less dense, still remained (Fig. 3.) concealed behind the edge of the pupil, and readily exposed by belladonna. In this variety then, the iris is not tagged to the capsule, and the vessels seem branches, not of those of the iris, but of those which, according to Schroeder Van der Kolk, run from the ciliary corona to supply by imbibition the anterior capsule. (Case 25.)

c.—*Opacity of the Capsule and Lens.*—This presents several very interesting phenomena. From the true capsular opacity, we must distinguish the appearance described already in Div. IV. and produced by lymph thrown out, not from the capsule, but from the line of serous membrane which overlaps its edge. It is in the condition of the eye thus produced, that adhesions are apt to form between this narrow strip of membrane and the opposite serous surface of the back of the iris.

There is sometimes, however, a true *cloudiness* of the centre of the anterior *capsule* (Case 24), almost invariably disappearing with the inflammation; though in a few unfortunate and neglected cases (Cases 4, 26) there resulted a permanent or cataractous *opacity* of the capsule,—a well defined irregular patch of thickening from the effusion of lymph.

I have observed a similar permanent *opacity*, once of the anterior, and once of the posterior *pole of the lens.* The first occurred in a patient of Dr Mackenzie's, and consisted of three equidistant radii (Fig. 4), meeting in the centre of the anterior surface of the lens. It was evidently owing to a deposit of lymph in the cellular substance, which there unites the ends of the lenticular fibres, and remained unchanged long after the subsidence of the inflammation. The posterior opacity existed in both eyes in Case 27. Deep in the centre of each pupil could be distinctly seen a small whitish quadrangular patch (Fig. 5), perfectly opaque, and having exactly the form which Henle (*Encycl. Anat.* v. 354) describes and depicts as being proper to the cellular substance which unites the fibres at the posterior pole of the lens.

In the ordinary pupillary cloudiness, is the lens itself ever the

seat of the opacity, or does this affect the capsule only? The application of the catoptric test furnishes our only means of answering the question.

In Case 42 the lens alone was muddy. There was a faint greenish colour, as if deep behind the pupil; and, just as in ordinary *glaucoma*, while the deep erect image of a candle was more than usually distinct, the inverted image was indistinct. In Cases 28 and 32 there was the same greenish reflection, and the same indistinctness of the inverted image; which in Case 32 became again quite clear and well-defined during the cure. These then I hold to have been cases of true acute glaucoma of the lens.

Obscurity and enlargement of both deep images coincided in Case 29 with muddiness of the pupil, perhaps seated in the anterior capsule alone; and in Case 33, the pupil being in the same condition, the inverted image was scarcely visible, while there was no deep erect one to be seen. As the inflammation yielded, both became distinct. In Case 30, the pupil being as above described, no deep image could be seen; but as the cure advanced, the inverted one became distinctly visible.

That the inverted image may be visible, while the deep erect one cannot be seen, is evidenced by Cases 33 and 39. Here, in all likelihood, the anterior capsule only was affected, being dull enough to prevent its throwing forwards a reflection of the candle, but not so opaque as quite to hinder the transmission of the image from behind.

It need not surprise us, that during the inflammatory stage of the disease the nutrition of the lens should be interfered with; and that some degree of opacity should thence result; for it will be recollected, that the anterior capsule is nourished by blood from the ciliary corona, and the lens by imbibition from the branches of the ciliary and retinal arteries that envelope it. Such a derangement in the choroid circulation as we shall see takes place in this ophthalmia, must needs, then, influence more or less the condition of these transparent parts.

Div. VIII.—*Affections of the Vitreous Body.*

A.—*Modified secretion.* The softness of the eyeball which I have already noticed occurred in a great number of cases during the acute stage; but the degree of this alteration bears no constant relation to that of the pain or the blindness experienced. Thus it was very marked in some cases during the amaurotic stage, before inflammation had come on; and in others the patient could read small type, though the eye was almost boggy; while lastly, cases occurred in which there was high inflammation, and very imperfect vision, and yet the eyeball retained its natural firmness. During convalescence the flexibility of the coats of the eye gradually disappears, and the consistence of the organ becomes once more natu-

ral, (Cases 3, 35, 36, 39,) but often not till long after the other symptoms have yielded.

The connection of this softness of the eye with a deranged state of the vitreous humour, is illustrated by cases in which it was accompanied by a diffused muddiness, (Case 37,) a deep-seated opacity, (Case 38,) or the presence of a mass of lymph floating in that body, (Case 39); but with the theory which accounts for the softness by supposing a dissolved state of the vitreous body, I must confess myself dissatisfied. For first, the iris is never tremulous, as in ordinary cases of that kind; and secondly, it is difficult to suppose that the vitreous cells, if broken down, should be restored to their former state at all, or at least so rapidly as the eyeball sometimes regains its firmness. The most probable supposition seems to me to be, that there is a deficient secretion of the fluid which fills the vitreous cells; and that this depends upon the congested state of the choroid and ciliary vessels, and consequently of those of the hyaloid membrane, which are derived from these, especially from the zonule of Zinn. In two Cases, (2, 35,) photopsia, indicating derangement of the choroid circulation, accompanied the softness of the eye. I have already noticed the coincidence of flexibility of the eye with asthenopia and myopia, which, it will be remembered, I attributed to a like derangement; in Case 3, the softness and the asthenopia disappeared together; and in Case 55, under the use of quinine, the softened eyeball became firm, and the contracted pupil expanded to its natural size,—changes which I believe to have depended on relief having been obtained from the congestion which the debility of the vascular system of the eye had produced.

B.—*Opacity*, deep in the eye, was observed in this disease by Wallace, and occurred to me seventeen times. In most of these cases it seemed to be seated in the vitreous body, and it came into view on the clearing of the pupil, previously usually more or less nebulous.

Of the various forms of this opacity, a diffused *muddiness* is the simplest, (Case 25.) In Case 37 this disappeared in three days after the exhibition of a purgative, and the application of a blister. In other instances, the opacity was more distinct and local, and when seen in a strong light thrown through the pupil with a lens, presented various forms. Sometimes it was a mere *opalescent reflection* from the back of the eye, which, in Case 40, did not hinder the patient from being able to read the numbers on the tickets, (about an inch and a-quarter long). Once this opacity was vertical and elongated, (Case 31.) This was on the 24th of January; on the 27th it was much less discernible; and when the patient returned on the 5th of March, the vitreous humour was quite clear, and the presence of a musca constituted the only imperfection in vision. In one very severe case (Case 38) there appeared at the bottom of each eye a greenish white *tapetum*, strongly reflecting light; yet this woman

could read large type with one eye. In Case 41 the reflecting opacity was confined to the lower half of the eye, and accordingly the patient saw with the upper half of the retina only.

What is the nature of these opacities? I was at first inclined to believe that they depended on an effusion between the retina and choroid, like that supposed by Schroeder Vanderkolk to occur in glaucoma; and in one little boy (Case 42) there was (from the whole of the bottom of the eye) a general greenish-brown reflection, the appearance of which seemed to countenance this opinion. In Case 41, however, it was negatived by the changes which took place as the case went on. On the 26th of December the opacity was first noticed, as above described; on the 6th of January it had become much less marked; and on the 15th it was loose, and floating tremulously in the vitreous humour in front of the retina. On the 26th, or a month after it was first observed, it could scarcely be seen, and the little girl could almost read small type.

In some cases, besides that just recounted, there was distinctly seen behind the pupil a *moveable opaque body*, changing its position as the eye turned, (Cases 30, 39, 43.) This, evidently an effusion of lymph in the vitreous body, presented various irregular forms: was in one case (Case 41,) nearly quadrilateral, and seemingly membranous (Fig. 6,);—in another somewhat reticulated, or filamentous. In none did I observe the opaque body vascular, as it is so often seen to be when it forms in consequence of wounds of the eye. I was agreeably disappointed with these cases, finding what seemed a hopeless opacity to disappear under mercurial treatment, while the patient regained such powers of vision as to be able to read small type, (Cases 39, 41, 43.)

In one severe and otherwise peculiar case, (Case 4,) there appeared on the clearing of the pupil a metallic reflection from the bottom of the vitreous humour, resembling exactly the traumatic *cat's eye*, which sometimes follows penetrating wounds of the eye in children. There was also present a remarkable swelling, occupying the outer part of the eyeball, and discharging, after puncture, a small quantity of matter. It appeared to me to be an *intraocular abscess;* but the patient soon ceased to attend, and I lost sight of her.

c.—*Displacement of parts* naturally supported by the vitreous humour may occur; as in one case, in which, during the early inflammatory stage of the disease, the iris was distinctly bulged forwards towards the cornea; perhaps by too abundant a secretion of the vitreous fluid.

Div. IX.—*Affections of the Retina.*

From my studies having been confined to the living eye, my knowledge of these affections is of course limited to that of their symptoms; but knowing, as we do, the intimate connexion between the circulation in the choroid and that in the retina, and the pressure which distended vessels in the former must make on the latter,

we may at once understand how easily excitement of the retinal vessels, and consequent photopsia may occur, or how a local or general amaurosis may follow upon the intra-ocular congestion which we have seen likely to take place.

The lesions of sensibility of the retina usually constitute, as we have seen, a separate stage of the disease, antecedent to that of inflammation; they are, however, by no means confined to an early part of the malady.

A.—*Amaurosis*, in its various forms, is by far the most frequent, in fact, an almost invariable attendant on the disease; in a few cases *general dimness of vision* is alone complained of throughout its course; but in the great majority, some particular part of the retina is chiefly affected. Hence a fixed *musca*, caused by congestion of this membrane, or of the choroid behind it, usually hangs before the sight, and when the inflammation comes on, is succeeded by general amaurosis; and yet I have seen the inflammatory attack not accompanied by any increase in the amaurotic symptoms. Again, I have found this order reversed, and general dimness usher in the complaint, to be replaced by muscae on the occurrence of inflammation; and in one instance (Case 47,) the dimness of vision disappeared almost entirely when the inflammation supervened; as if the excitement of the sclerotic and neighbouring parts had acted as a derivative, and thus relieved the congestion of the retina. Also, though the musca usually ceases to be observed when the general dimness of vision comes on, I have seen cases in which it was still said to be present, though the patient had mere perception of light and shade, (Cases 16, 40). The degree of amaurosis, as I have already remarked, is by no means always in accordance with the violence of the inflammatory symptoms. Thus, in Case 46, although the iris was darkened, the pupil contracted and irregular, and the capsule vascular, the patient could easily read small type. This is not like common inflammation producing blindness as its result, but rather points, as all the history of the cases does, to an affection of the retina, not necessarily connected with inflammation. The musca is usually more or less lateral: it has been described to me as resting on the nose when the eye was directed forwards, or as seeming to hang suspended, as it were tangibly, at a little distance from the face; and if there are two, they sometimes seem as if placed at different distances from the eye. Sometimes (Case 44, Nov. 1) it constituted a *diffused cloud* rather than a speck; in three cases, (Case 44, Nov. 16, Case 45, March 1st), the musca was described as *annular;* in one it resembled *bundles of hair;* in another, a *cloud of soot*, gradually changing into a *white fog;* it was like a *veil of gauze* in a third; while not unfrequently there were present the real *muscae volitantes*, with their long irregular strings, among which, in one case, as the patient showed me on paper, the *fixed speck* hung. In one instance there was a constant fixed musca, and many others which appeared occasionally, pro-

bably according to the varying state of congestion of the retina. One man, (Case 36,) who had regained perfectly clear vision after the subsidence of the inflammation, complained that the muscae always returned when the circulation was quickened by exertion; another patient, that they came back when he was costive, (Case 44). Vision is sometimes variable even during the inflammatory stage, (Case 44), but more usually during convalescence,—the patient being able to see best in the morning (Case 32) or in the evening.

B.—*Intolerance of light* was rather rare, being remarkable in only five cases, and in two of these there was a complication with ophthalmia scrofulosa. In the case in which the adjustment of the eye to near objects caused pain, there was no intolerance,—a proof, I think, if one were needed, that irritation of the ciliary body, ("cilitis"), which we have seen as the probable cause of asthenopia, has no connexion with photophobia, as Bérard (An. d'Oculistique, 1844) has supposed it to have. In no case did intolerance coincide with very severe inflammation; and once, while the deeply seated tissues were involved, there was even what might be called the reverse of photophobia, the patient requiring a strong light to enable him to distinguish objects.

C.—*Pyropsia*, or the appearance as of sparks and flashes of fire before the eye, occurred to me in thirteen cases. In two (Case 25) of these it was the earliest symptom, and preceded the amaurosis by a week; in another, it followed muscae, and was accompanied by increased dimness of vision, but preceded by some time the inflammatory attack: in this instance the flashes of light were seen only in the dark. In four cases (Cases 26, 35,) the photopsia accompanied the inflammatory stage; and in five (Cases 2, 3,) it occurred for the first time when the eye was getting well under treatment,—the luminous flashes being by two of these patients perceived only when the eye was moved or opened. In all these instances there must have been more or less irritation of the retina, and not the mere congestion that seems usually to exist.

D.—*Chroopsia*, or coloured vision, I met with four times. One patient stated that he saw everything of a green colour; another, (Case 1), that a green haze seemed to hang constantly before the eye. This floating mist was red in Cases 27 and 47; in Cases 26 and 40, the muscae which hung before the eye had a blueish green hue; in Case 48 flashes of purple light were frequently perceived, becoming yellow as the symptoms yielded to treatment; and lastly, in one instance purple muscae were complained of after convalescence.

E.—A deficiency in the power of distinguishing colours is stated by Dr Jacob to have been one of the symptoms observed by him in the post-febrile ophthalmia,—blue and green being confounded, he says, with black. I have carefully examined this point, and conclude that there is no inability to distinguish colours, other than what necessarily results from the indistinctness of vision:

when there is marked amaurosis all colours appear darker than natural, and blue and green come thus to resemble black.

Div. X.—*Complications of the Disease.*

A.—Once (Case 42) the inflammation became, during its continuance, complicated with *strabismus;* in one case of Dr Mackenzie's, (Case 49), with what seems to have been *periostitis* of the orbit; but these things, from their rarity, are of small consequence.

B.—Of greater interest are those cases in which there was a combination of the symptoms proper to the disease of which I am treating with those of the *scrofulous* or *syphilitic* ophthalmiæ. The former has been already noticed; of the latter, we have examples in Cases 50 and 51. In the first of these the patient had syphilitic inflammation of the eye up to the febrile attack, ever since which the pain had been less till the access of the postfebrile ophthalmia shortly before admission. In the second case the presence of condylomata on the iris, never found in the simple postfebrile disease, and of ulcers on the fauces, induced me to believe that syphilis existed.

PART III.—PATHOLOGY OF THE DISEASE.

In respect of what I have said already of the causes and nature of the disease, this section may be brief.

A.—The fever we have been concerned with is *not the only one* which is followed by an affection of the eye; although it is perhaps that of which this is the most frequent sequela; for, setting aside the puerperal ophthalmitis, probably connected with inflammation of the uterine veins, we find Dr Mackenzie stating, on the authority of Dr Lawrie of Glasgow, that a like affection is apt to follow the *remittent fever* of India; and even our own *typhus* is occasionally followed by similar symptoms. Two cases of this kind, which occurred to the late Dr Cowan of this city, are detailed by Dr Mackenzie, in his work on the diseases of the eye; another, of which I have unfortunately preserved no notes, I saw in the Royal Infirmary when clinical clerk to the late Dr William Young; and, in a third, in the same hospital, under the care I think of Dr James Brown, there occurred, as an immediate consequent on the fever, amaurosis of one eye, with turbidity of the aqueous humour, and dilatation of the pupil. A girl, labouring under postfebrile ophthalmitis, and admitted last year by Dr Mackenzie to the Eye Infirmary, said that she had five years ago been a patient there with an exactly similar affection following ordinary typhus; and on consulting the old journal, I found that she had laboured under an internal ophthalmia, requiring repeated bleeding, and the use of mercury; in the old report the description is not very minute, and nothing is noted about the fever; but the patient assured me that the complaint began then, as on the present occasion, by the appearance of a musca before the eye, about a fortnight after convales-

cence from the fever. Another patient (Case 31) had been troubled with muscæ before one eye since recovery from typhus two years before; and the new postfebrile affection was ushered in by photopsia and increased blindness of the eye previously affected.

A child was brought to the Eye Infirmary with deep-seated inflammation of the eye, exactly resembling many of the postfebrile cases—but consequent to an attack of *measles*—and *erysipelas*, I have twice seen followed by similar symptoms; thus in one case the patient had erysipelas a year before he came under my observation, and it had been followed by dimness of vision of both eyes, with muscæ before the right one; these symptoms lasted for four months, and the left eye at last became affected with postfebrile ophthalmitis after an attack of the prevalent epidemic.

B.—The disease seems to be connected with a *depravation of the blood* consequent upon the fever, during which it is well known that the secretion of urea at least is frequently interfered with, sometimes so much so as to cause speedy death from poisoning. We have seen that the ophthalmitis usually begins within a few weeks of convalescence, and those who have observed the fever know that recovery from its effects is commonly very slow; indeed the aspect of the patients admitted by me to the Eye Infirmary was very often such as to indicate considerable weakness, and a deficiency of red globules, and of fibrin in the blood. Yet there were cases in which the face was florid, and the person stated that he had been long at work, and felt quite strong; when blood was drawn, however, it did not exhibit a healthy appearance. The clot was in almost all cases loose and large, (Case 1,) often very dark, (Cases 4, 18, 35,) in some instances adhered to the cup all round, while a very small quantity of serum floated on its surface, (Cases 44, 45.) These peculiarities indicate such a deficiency of *fibrin* that the clot does not contract as it ought to do.

Thus, on the blood of a girl aged 19 (A), who had recovered three months before from fever, and had been for three weeks affected with ophthalmitis, there formed no buff; and the quantity of fibrin was under the natural standard.

	Healthy.	A.	B.
Water, ...	780	792	790·3
Albumen, ...	80	77·8	71·4
Salts of Serum, .	8	7·3	4·9
Globules, ...	129	120·1	131·1
Fibrin, ...	3	2·8	2·3

When the eye inflames the blood becomes buffy, (Cases 20, 40, 46,) and its fibrin more abundant; yet still not above the standard of health, while the buffy coat is loose, sizy, (Case 51,) and gelatinous, (Case 20.) Thus in one case, when the clot was very buffy, but not contracted, being dark and soft below, the fibrin amounted to only 3·3 per 1000; in a girl of 16, who had recovered three months before from fever, and whose eye had been for a week inflamed, the clot was contracted and buffy, the fibrin only 2·3 per 1000; and the

same proportion existed in case B; viz., that of a man aged 39, but otherwise in the same circumstances with regard to the disease as the girl just mentioned, and whose blood presented exactly the same appearance as hers did. It is well known that in a case of sthenic inflammation in a previously healthy person, the quantity of fibrin rises to double or triple the natural amount.

The *serum* I have found turbid from the presence of albuminous particles; and in case B, the *salts* were very deficient; in correspondence with the last noticed peculiarity the blood was in several cases very dark when emitted, and flowed languidly from the vein. I have repeatedly looked for, but never detected, an alteration in the form of the *corpuscles;* but in one instance the serum was reddish from a dissolved state of the colouring matter.

c.—The postfebrile is in some respects *related to the rheumatic and arthritic ophthalmiæ;* but though, like rheumatism, sometimes *metastatic*, (Case 52,) its severity bears no relation to that of the rheumatic symptoms accompanying the preceding fever; for in only three cases (Case 22.) did the patients state, that they had suffered much from rheumatic pains during the fever; and I took some trouble to ascertain this point. We have already seen the connection of the postfebrile with the *scrofulous* ophthalmia; in some instances the diagnosis can be made only from the history; but while the postfebrile usually attacks the deep-seated parts of the eye, and but seldom the superficial tissues alone, the scrofulous ophthalmia is commonly a conjunctival disease, the proper tissue of the cornea and the iris being fortunately much more rarely affected. I conclude, then, that the disease we are studying presents the essential characters of a *blood disease.*

d.—I may notice an interesting parallelism between the fever itself, its immediate sequelæ, and its more remote consequent. The most prominent symptoms of the epidemic fever arose from two classes of disorder, *congestion of vascular viscera*, viz., the liver and spleen; and *rheumatism* of the fibrous tissue. So the most marked, perhaps, of its immediate sequelæ were *renal congestion*, causing albuminuria and dropsy; and *arthritis.* And thus, too, in the subsequent affection of the eye, we can trace the distinction between the *congestion* of the vascular choroid, and the *inflammation* of the fibrous sclerotic.

PART IV.—TREATMENT OF THE DISEASE.

a.—I quite agree with Dr Mackenzie, that *bleeding*, *mercury*, and *belladonna* form the triple cord, on which our practice may most safely hang; but I think I have seen to flow from active *purging*,—from smart mercurial purgatives, followed by salines,—more good than he seems to think it yields: in Case 56, Dec. 2, the good effects of a purge were very evident. See also Cases 16, 19, 32, 38. For examples of the good effects of mercury, after leeching, see Cases 21, 25, 45. For instances of the beneficial results of bleeding,

purging, and mercurialization, consult Cases 1, 3, 32, 33, 39, 50, 51, 58.

Jeaffreson, in his work on Diseases of the Eye, gives a case in which amaurosis disappeared during an attack of cholera; and free purging was, in many of my cases, of like beneficial effect.

General amaurosis suddenly coming on is much more tractable than what might seem the less formidable muscae, for which, perhaps, the patient scarcely cares. Thus in Case 54, the woman, previously well, found on awaking in the morning, that she could scarcely see the light. She was bled and purged, and next day complained merely of the presence of a faint haze before the eye. Under depletion and mercury the diffused dimness of sight scarcely ever (except in long neglected cases) fails to yield; while the muscae, continuing after the inflammation has been subdued, and being probably connected with loss of tone in the choroidal capillaries, persist long, and are often to be removed rather by the tonic power of *counter-irritation* and *quinine*. The photopsia which sometimes occurs during convalescence may be explained by supposing a renewed activity of the circulation in the rētina, on the disappearance of the congestion which we formerly saw likely to exist.

Seldom has it been needful to repeat the bleeding, although I did so once with the best effect after the mouth had been affected by mercury. Cupping and leeching are often useful after venesection, though in some rare cases the patient has complained that he saw worse after leeches had been applied, (Case 36.) In few instances is it safe to trust to local depletion alone.

Though a spontaneous cure is sometimes observed (Cases 52, 53), yet the disease is not to be trifled with; and in Cases 22, 23, 24, 26, 57, we have examples of the dangers and the evil which may result from irregular or feeble treatment. In Case 9 may be seen the bad consequence of stopping the mercurial course too soon, and the benefit from resuming it.

When the acuteness of the inflammation is over, blisters are very useful (Case 56), and quinine is of benefit in the subsequent stage of congestion from weakness, (Cases 41, 45, 50.) The dependence upon mere congestion from debility of much of the dimness of sight that remains after the inflammation is subdued, is evidenced by those cases in which vision was clearest in the morning, as well as by that of a boy (Case 55), who had, after treatment by depletion and mercury, come to see pretty well, but whose sight became at once very dim when he exhibited general debility, and cleared up completely after a few days' use of quinine; while at the same time the softness of the eye, which had also been present, and which, we have seen reason to believe, depends on congestion of the choroid, almost entirely disappeared. Yet quinine must be used with great caution: as I have seen the imprudent employment of it result in increased blindness, or be followed by photopsia and returning sluggishness of the pupil, (Case 57.) Quinine was used successfully in combination with

calomel in Cases 41, 45, thus uniting the mercurial and the tonic plans of treatment. From what I have said, it will be seen that Mr Wallace's mode of treatment by bark alone is wholly inapplicable to the postfebrile ophthalmitis, at least as it appeared in Glasgow. Dr Mackenzie's observation has led him to the same result.

Ought we always to give mercury? I think we ought. The organ in danger is one of great importance, and the cases already quoted show how great a peril to its efficacy may be involved in the omission of the use of this medicine, as well as the prompt amendment which its exhibition often produces; (see also Cases 21, 29, 39, 50, 51, 58.) In some of the slighter cases, however, I tried the non-mercurial treatment, with the following results:—By a *purgative*, followed by full doses of *Dover's Powder* (Case 19); by full doses of *nitre* (Case 59); by the free use of *tartar emetic and opium;* of *turpentine* (Case 60); of *colchicum after bleeding* (Case 44), have I indeed cured cases, and even when the symptoms were pretty severe.

But yet, on further experience, I saw it right to use mercury in almost every instance; and I think that a perusal of the cases to which I have referred will justify my resolution. Beginning by the use of other means, I have found them to fail, and have been then compelled to resort to mercury, and to use it at a disadvantage, as is always the case when the disease is of old standing. *Colchicum* and *belladonna* are useful adjuvants; the former in assuaging pain in the rheumatic, the latter in lessening intolerance in the scrofulous forms of the malady. *Iodide of potassium* I think I have seen (Case 25) useful in removing the muscae which outlast the acute attack; although it is not very easy to speak positively of the effects of a drug slow of action, and following a mercurial course, to which alone, or to the unaided efforts of nature, the improvement may have been due.

When used actively and judiciously, the treatment I have pointed out—that by depletion and mercury—will often have the best effects, even in very bad cases (Cases 3, 34, 47). Opacity of the vitreous body itself is, as we have seen, by no means a hopeless state. It is true that a relapse may take place, even while the mouth is sore (Case 9); it is true that there occur a few obstinate cases (Case 18), which yield slowly and reluctantly to the remedy, even when one cannot well see why they should be more intractable than others which seem as severe as they (compare Cases 18 and 31); but these are the exceptions; as a general rule, the postfebrile ophthalmitis is most amenable to the treatment I have indicated. Amaurosis even of long standing, consequent upon fever, yields to remedies more easily than amaurosis arising from other causes, (Case 61.)

2. *The average duration of the disease.*—Since the patients at the Eye Infirmary usually cease to attend before vision has been quite restored, no conclusion can be arrived at as to the persistence of the *amaurotic* symptoms; and from the extremely irregular attendance

of many of them, the duration of even the *inflammatory* stage (which I calculate not from the beginning of the treatment, but from the earliest occurrence of pain or redness of the eye) could be ascertained in 60 only of the 154 cases which I treated.

We find, as indeed might be expected, that this period varies with the time which has elapsed between the occurrence of the inflammation and the beginning of the treatment. Thus the average duration of the inflammatory stage was, in 35 cases admitted before the 10th day of the inflammation, 21 days; in 15 cases admitted after the 9th, and before the 20th day, 26 days; in 10 cases admitted after the 19th day, 49 days.

Three weeks may then be stated as the average duration of the acute period of the malady in cases not neglected, and the good effect of treatment is as manifest in shortening the course as in obviating the bad effects of the disease.

I had supposed it possible that the length of time during which the amaurosis had existed, previously to the occurrence of the inflammation, might have modified the duration of the latter, and so complicated the result; this, however, I found not to be the case. Thus of the 35 cases in which the treatment began before the 10th day of the inflammation,—

15 in which the inflammation occurred before the 10th day of the amaurosis had an average duration of 20 days,

20 in which it occurred after the 9th day, 21 days, or very nearly the same endurance.

It is a curious fact, that as far as my cases go, the disease seemed to become more obstinate as it was less prevalent. This will be seen from the following table of the average duration of the acute stage, in the 50 cases admitted before the 20th day of the inflammatory symptoms:—

Of 16	admitted in Nov. 1843, ...	19 days.
Of 13	admitted in Dec., ...	20
Of 15	admitted in Jan. 1844, ...	22
Of 44	admitted in Nov., Dec., Jan., . . .	20
Of 6	admitted in May, June, July, 1844, .	36

Such is the history of the "Postfebrile Ophthalmitis," as observed by me in Glasgow in 1843 and 1844. That it presented many interesting points for study, will, I think, be denied by none. It is, perhaps, of all the diseases of the eye, the most comprehensive in its nature, and that which teaches most completely the important lessons on morbid anatomy, pathology, and therapeutics, which the complex structure, the multiplicity of tissues, and the delicate functions of the human eye fit it so well to illustrate.

DESCRIPTION OF THE FIGURES.

Fig. 1. The "sooty brown spots" on the capsule.
Fig. 2. The "red tag" of the capsule, Case 25.
Fig. 3. The "wreath of vessels" on the capsule, Case 24.

Fig. 4. Opacity in the anterior pole of the lens.
Fig. 5. Opacity in the posterior pole of the lens, Case 27.
Fig. 6. Opaque moveable body in vitreous humour, Case 41.

ILLUSTRATIVE CASES.

Case 1. *Postfebrile Ophthalmitis, with deformity of pupil, and lymph effused on capsule, but no change in the colour of the iris. Cure by depletion and mercury.*—13474. Susan M'Wha, aged 43, November 30, 1843. Since convalescence, nine weeks ago, from relapse after fever, has complained of muscæ before the right eye; and for the last five days has had ocular pain and tenderness. She now can just distinguish the light, and has a perception of greenness, and many floating muscæ before the eye. Redness of eye moderate: light grey iris unchanged in colour, but pupil contracted, irregular, and bordered by a ring of lymph on the capsule. Pulse firm.—*V.S.—Bellad. ad palpeb. Sum. vesp. pulv. purg.—c. m. sulph. mag.* ℥*j.*

December 1. Pupil somewhat dilated. Vision improved. Can see the large type, while the pain is gone and the capsule clear. Fifteen ounces of blood drawn; clot large and loose.—*Rep. medicam.*

2*d.* Did not wait for medicines. A return of pain last night.—*Sum. subm. hyd. gr. v. pulv. opii gr. i.—c. m. rep. sulph. mag.*

4*th.* Can see the small type. Eye still tender, but the pain and redness are much diminished. Mouth sore.—*Ad palp. hirud. ij. Sum. ter in die vini colchici* ℥*ss.*

17*th.* Pain and objective symptoms quite gone, except that the right pupil is somewhat smaller than the opposite one. Perceives two small muscæ before that eye. Bowels costive. Mouth sore.—*Cap. sulph. magn.* ℥*j.*

19*th.* Vision improved.—*Omitt. colchicum.*

January 15. Vision perfect. Eye natural.—*Dismissed cured.*

Note. The acuteness of vision is measured, in this and the following cases, by the power of seeing,

1. *The numbers on tickets*—being numerals about an inch long.
2. *The large type* on the Infirmary card.
3. *The small type.*

The *pulvis purgans* is composed of subm. hyd. g. v. pulv. jalap g. x.

Case. 2. *Postfebrile Ophthalmitis, exhibiting the access and disappearance of the Amaurotic Symptoms. Photopsia. Treatment by leeches and mercury.*—13601. Margaret Rilley, aged 20.—*Jan.* 9, 1844. Recovered three months ago from fever; has had muscæ before right eye for two months, and pain for a fortnight. The muscæ are now replaced by general dimness of vision, so that she cannot read large type. Eye-ball soft and tender, with considerable redness. Lower edge of cornea opaque; brown iris unchanged; pupil slightly muddy and sluggish. Photophobia. Has been leeched, and mouth touched with mercury. Pulse weak.—*Ad. palpeb. dextras hirud. vi. Sum. ter in die Ext. colch. acet. gr. i. Ext. Bellad. gr. ss. Pil. hydrarg. gr. iv.*

10*th.* Photophobia gone. Pain and redness much less; the latter now solely conjunctival.

11*th.* Mouth sore.—*Omitt. pil.—Sum. vesp. pulv. Doveri. gr. x.*

12*th.* Photopsia on opening eyes. Redness and pain all but gone.—*Sulph. Magn.* ℥*ss.*

14*th.* Photopsia and redness gone. Can read small type. Muscæ.—*Belladonna ad palpeb.*

15*th.* Pupil dilated, exhibiting a tag of the iris to capsule, on which are brown spots.

17*th.* Mouth still very sore. Sees better.—*Sulph. magn.* ℥*j.*

19*th.* Right pupil the smaller.—*Vesic. pone aurem dext.*

21*st.* Eye-ball still rather soft.

25*th.* Mouth nearly well.—*Rep. vesic.*

28*th.* Small muscæ continue. Objective symptoms gone.—*Sulph. magn.* ℥*ss.*

30*th*. *Rep. vesicat.*
Feb. 4. Vision improves.

Case 3. *Postfebrile Ophthalmitis.—Loss of vision of one Eye, followed by a severe attack in the other,—Depletive and mercurial treatment successful,—Use of colchicum,—Subsequent asthenopia and photopsia.*—13632. William Campbell, aged 49, January 18, 1844. Recovered 13 weeks ago from relapse after fever. A month after, muscæ appeared before right eye, and inflammation followed. This is now gone, but vision is completely lost; the eyeball is soft; the cornea shrunk; iris conical forwards, while the pupil is closely contracted upon a minute mass of lymph.

Some weeks after the inflammation of right eye had ceased, and 17 days ago, left eye was suddenly attacked with inflammation and pain, not preceded by dimness of vision. There is now intense redness, particularly of the conjunctiva, of this eye; the iris is green, and presents a small patch of blood at the margin of the pupil, which is muddy and contracted; eyeball soft; ocular and circumorbital pain severe; pulse weak.—*V. S.—Ad palpeb. sinist. hirud. vi. Sumt. stat. pulv. Doveri gr. viii. Subm. hyd. gr. vi.*

19*th*. ℥xii of blood, buffed. Pain less, and vision clear after bleeding.—*Rep. hirud stat. Sumt. sulph. magn. ℥j. et vesp. repet. pulv.*

20th. Can read large type; mouth affected; pain less severe.—*Repet. sulph. magn.; Bellad. ad palpeb.*

21*st*. Pain continues; pupil more dilated.—*Sumt. subm. hyd. gr. iv. pulv. Doveri gr. x.—Capt. vini colchici gtt. xxx. ter in die.*

22*d*. Pain gone; nausea and purging; pupil clear; redness less.—*Vesp. repet. pulv.*

23*d*. Can just read small type. Pupil natural, with one tag to capsule; conjunctiva vascular around cornea; pain of eye gone; much griping and purging.—*Omitt. vin. colch. Sumat. ol. ric. ℥j.*

25*th*. Redness nearly gone.—*Rep. ol.*

26*th*. Reads small type easily when he first looks at it, but cannot continue the effort; occasional photopsia.—*Sulph. magn. ℥ss.*

27*th*. Mouth still sore.—*Rep. magn.*

28*th*. Muscæ, with some pain of eye.—*Ad palp. sinist. hirud. iv.*

31*st*. Eyeball firmer; muscæ continue. Can distinguish the light with right eye.

Case 4. *Severe and neglected Postfebrile Ophthalmitis, ending in disorganization of the Eye, with Abscess.*—13481. Jean Whiteside aged 17. *Dec.* 2. 1843. Convalesced 4 months ago from relapse of the fever, and has ever since had dimness of vision of left eye, which gradually increased till the accession of pain, a fortnight before present date, at which time vision became extinct. Much temporal pain, and supra-ocular pain and tenderness worst during night. The eye is intensely red, and there is a swelling of the ball close to the outer edge of the cornea, which is muddy and atrophied. The (grey) iris has become brown, and it presents red vessels radiating towards the contracted and irregular pupil; pulse quick.—*V. S.—Bellad. ad palp.—Sum. 8va q. q. h. submur. hyd. gr. ij. pulv. opii.—tart. antim. ā ā gr. ½.*

3*d*. ℥x of blood; clot large, dark, and gelatinous. A clot of blood lies in front of outer part of iris; pain nearly gone. Can just distinguish the light.

4*th*. Iris less vascular; mouth slightly affected.

5*th*. Cornea clearer; vomits powder; pain has returned.—*Hirud. vi. ad palp. sinist. Omitt. pulv.—Sum. ter in die Submur. hyd. gr. ij. pulv. Doveri, gr. x.*

8*th*. Nausea and vomiting; cornea clearer, and a yellowish reflection deep behind the pupil.—*Omitt. pulv.*

12*th*. Pain gone; iris of a more natural colour.

17*th*. Vascularity of eye much less, and effused blood nearly absorbed. Cornea and pupil quite clear, there being a distinct cat's eye reflection from deep in the vitreous humour; mouth still sore.

Jan. 14*th*. Has not attended since last report. The inflammation, which had diminished, has returned; the iris is now nearly in contact with the cornea; the blood has been absorbed, and the swelling of the eyeball has increased. The iris

is still vascular; the anterior capsule presents a slight opacity, and the bright reflection from the bottom of the eye is still apparent.—*Hirud. vi. ad palp. sinist.* —*Sum. ter in die extracti colchici gr. j. Extr. Bellad. gr. ss.*

19*th*. Pain nearly gone.

21*st*. Projecting part of eyeball begins to point, and to assume a yellowish appearance.

24*th*. Tumour having been punctured with a needle, a few drops of blood escaped.— *Omitt. med.*

Feb. 4*th*. A new effusion of blood into anterior chamber. Pus is still discharged from the opening in tumour; has no pain, and no vision with this eye.

She refused to submit to further treatment, and was dismissed irregular.

Case 5. *Postfebrile Puro-mucous Conjunctivitis— Cure by local remedies.* —13606. Elizabeth Harland, aged 13 months. Jan. 10, 1844. Recovered three months ago from relapse after fever. Since then right eye has been weak,—five days ago it became inflamed, and swelling of the lids, with considerable puriform discharge, has supervened; cornea and iris unaffected.—*Ad palp. sup. dext. Hirud. ij.— Capt. sulph. magn.* ℥*j. Ut. collyr. c. Belladonna.*

11*th*. *Gtt. sol. nitr. arg. gr. xxx ad* ℥*j. om. die.*

12*th*. Inflammation diminished.— *Ol. ricini*, ℥*ij*.

13*th*. Inflammation lessens.

15*th*. Inflammation gone.

Case 6. *Postfebrile scrofulous Conjunctivitis.*—13588. William Kemp, aged 11, January 4, 1844. Recovered six weeks ago from a slight attack of fever. A fortnight thereafter conjunctival inflammation occurred, first in right, then in left eye. The right is now chiefly engaged; its sclerotic somewhat vascular, its cornea nebulous and rough, with a small albugo; and the eyeball softish.—*Ad palp. dext. hirud. vi. Sum. sulph. magn.* ℥*ij*.

5*th*. Irritation much diminished.—*Sum. tinct. Belladonn. gtt. viii. ter in die. Rep. sulph. magn.*

7*th*. Intolerance almost gone.—*Sum. gtt. x. ter in die. Vesicatoria pone aures.*

11*th*. Nebula of right cornea diminishing, and redness of both almost gone.—*Sum. gtt. x. bis in dies tantum.*

21*st*. Eyes nearly well.

28*th*. *Omitt. tinct. bellad. Utat. collyrio mur. hyd.*

March 11*th*. Ophthalmia catarrho-pustulosa of right eye.— *Ung. prec. rub.*

Case 7. *Postfebrile Ophthalmitis, complicated with scrofulous ophthalmia.*— 13555. Matilda Watson, aged 25.—Dec. 25, 1843. Recovered two months ago from relapse after fever; and has since had epiphora and glueing of eyelids. Three weeks ago there supervened ocular and circumorbital pain on left side. There is now inflammation of the eyelids, considerable redness of eye, and speckled opacity of the corneal conjunctiva, with photophobia; pupil contracted and irregular; the (blue) iris being discolored; pulse quick and weak; is nursing.—*Ad palpebras sinist. hirud. viii.—pulv. purgans vesp. C.M. sulph. magn.* ℥*ss.*

26*th*. Pain less.—*Sum. vesp. submur. hyd. gr. v. pulv. Doveri gr. xii.*

27*th*. Improves; considerable conjunctival irritation.—*Sum. ter in die pil. hyd. et ferri.*

29*th*. Pain increased.—*Hirud. iv.—sum. ter in die Extr. Bellad. gr. ss.*

Jan. 2*d*. Pain gone.

Case 8. *Postfebrile Ophthalmitis, complicated with scrofulous ophthalmia.* 13475. Robert Farmer, aged 13, November 30, 1843; convalesced a month ago from relapse after fever. After exposure to cold a fortnight ago complained of pain in the ball of right eye, which, however, is not severe. Dimness of sight came on three days ago;—but he can read small type. Vascularity slight, lower part of cornea hazy.—*Ad Palpeb. dext. hirud. vi.—Sumt. vesp. pulv. Doveri gr. viii. et ter in die vini colchici* ℥*ss.*

Dec. 2. Redness increased; cornea clearer; no pain; but epiphora.

4*th*. Cornea nearly clear, redness much less; vision nearly perfect.

6*th*. Redness increased; pain of eye came on last night.—*Appl. ad. palpeb. dext. hirud. iv.*

7*th*. Pain gone; eyeball soft.

10*th*. Epiphora.—*Vesic. ad. temp. dext.*—*Collyr. mur. Hydrarg.*—*Gtt. sol. ad nitr. arg. gr. x. ℥i.*

24*th*. Inflammation nearly gone; eyeball still somewhat soft.—*Vesic. pone. aurem dext.*

Jan. 4*th*. An attack of pustular ophthalmia, with pain of eyeball.—*Ad. palpeb. dext. hirud. iv.*—*Cap. sulph. magn. ℥ss.*

13*th*. Vitreous humour muddy.

18*th*. Epiphora and nebula of cornea continue.

Case 9. *Postfebrile Ophthalmitis, partaking of the character of Scrofulous Iritis. Danger of too soon suspending the Mercurial treatment.*—13398.—David Young, aged 11, November 4, 1843, was seized with fever eight weeks ago, and relapsed subsequently. Right eye began at the outset of the fever to be affected with nocturnal pain, and daily increasing dimness of vision. There is now no pain, but considerable intolerance, and he can with this eye just distinguish a pin. Sclerotic faintly vascular; iris greenish, pupil much contracted, and immoveable. Cornea very nebulous, and vascular at edges. Bowels slow; pulse 120, weak.—*Bellad. ad palp.*—*Sum.* 8*va q. q. h. pil. calom. et opii.*

5*th*. Pupil nearly of natural size; intolerance much diminished.

6*th*. Cornea clear; pupil larger; mouth touched.

7*th*. Redness gone; pupil large.

8*th*. Iris nearly of natural colour; can read large type.

10*th*. Can read small type.—*Om. pil.*

16*th*. Vision more imperfect; mouth still slightly sore.

29*th*. *Sum. solut. Lugolis. gtt. xx. ter in die.*

Dec. 18*th*. Iodine disagreed, and was stopped a week ago; no change.—*Sumt. sol. arsenicalis gtt. iij. ter in die.*

Feb. 11*th*. Has not attended; pupil very muddy, and contracted; iris discoloured, and of a greenish brown; cornea nebulous.—*Omit. sol. arsenicalis; Capt. pil. Plummeri omne nocte.*

15*th*. Improved in all respects; vision much clearer, and iris more natural.

Case 10. *Postfebrile Ophthalmitis, with Opacity deep in the Eye, and almost total extinction of vision, without redness.*—13650.—Andrew M'Glin, aged 55; January 24, 1844; lost left eye in consequence of a blow with a stone two years and a half ago; and right eye has since been weak. Last summer its vision was misty.

Recovered three weeks ago from relapse after fever, and from that time vision has become worse; he has had occasional slight circumorbital pain and can now just see the light.

There is no redness of the eye; the cornea is muddy; the pupil is considerably dilated and insensible, and there is seen in its centre, and deep in the eye, a whitish opacity; considerable debility.

No amelioration resulted from treatment by moderate depletion and mercurialization.

Case 11. *Postfebrile Ophthalmitis of right eye, cured. Vision pretty good at close of treatment. Re-admission in six months with amaurosis of both eyes.*—14141. James Brodie, aged 60. July 3, 1844. Recovered from fever in November last. Right eye has since been inflamed, at first remittingly. Cannot now distinguish the fingers; redness slight; pain not severe. Left eye weak.—*V.S.*—*Bellad. ad palp.*—*Vesp. pulv. purgans.*

5*th*. Pain less; redness all but gone; pupil dilated.—*Pil. cal. and opii ter in die.*

8*th*. Pain and redness gone. Vision as before.

10*th*. Mouth sore.—*Omitt. pil.*

15*th*. No objective symptom. Can nearly read large type.

14645. Feb. 13, 1845. Re-admitted under Dr Mackenzie. Both pupils now very sluggish and small, but irides of a natural colour. Both deep images enlarged; but eye-balls of natural consistence. With neither eye can he read the numbers on tickets. Complains of muscæ volitantes, in increasing numbers, and has a dull pain in forehead. Smokes. Tongue clean; pulse natural; appetite indifferent.

CASE 12. *Postfebrile Ophthalmitis affecting both eyes; pain intermitting, with rigors and perspiration.*—13406. Flora Bow, aged 44. Nov. 8, 1843. Was seized with epidemic fever two months ago, and having convalesced about a fortnight before present date, has since complained of weakness of eyes. With the right eye she can read the large type, though there are muscæ always before it: with the left she can distinguish only the numbers on tickets. The left eye has been painful for two days; an accession of pain occurring morning and evening, preceded by rigors, and followed by sweating. Pupil of right eye sluggish; cornea surrounded by a faint pink zone. Did not return.—*Dismissed irregular.*

CASE 13. *Postfebrile Ophthalmia. Chief symptom ulcer of the cornea. Cure by local remedies.*—13436. George Cox, aged 36. Nov. 21, 1843. Convalesced a week ago from fever. Says that right eye has been weak since exposure to cold early in the fever, and that he had circumorbital pain, which has now disappeared. Can read large type. An ulcer near the centre of cornea, vascular at edges, and opaque at bottom. Bowels costive.—*Gtt. sol. nit. arg. gr. x. ad ℥j.—Sum. sulph. mag. ℥ss.*

22*d*. *Gtt. sol. nit. arg. gr. xxx. ad ℥j 3tia q. q. die.—Ut collyr. mur. hyd. et ung. precip. rubri.*

24*th*. Ulcer filling up.

27*th*. Ulcer filled with white lymph.

29*th*. Cornea round ulcer still vascular and hazy.—*Ut. ung. cyanidis zinci ℥ss. ad ℥j.*

Dec. 10. Ulcer healed.

CASE 14. *Ophthalmitis postfebrilis; with ulceration of the substance of cornea, and conjunctival and tarsal irritation. Cure.*—14555. James Morison, aged 55. Jan. 4, 1845. Had fever a year ago, and this was soon followed by asthenopia, and then by slight amaurosis of both eyes. With the right eye cannot make out small type: the left eye has been inflamed for three weeks, and its vision is worse. It is very red; there are two clear, deep, irregular ulcers on cornea, and pupil is muddy; considerable pain.—*Bellad. ad palpeb.—C.C. ad tempus ad ℥viii. Sum. vesp. pulv. purg.—c.m. Sulph. mag. ℥j.*

5*th*. Severe pain last night. To-day a good deal of conjunctival and tarsal irritation.—*V.S.—Sum. pil. cal. et opii i. 8va. q. q. h.*

6*th*. ℥xiv. of blood; clot soft; pain nearly gone; much tarsal inflammation and swelling. Epiphora.

7*th*. Some pain last night.—*Rep. C.C. ad ℥vi.—Sum. ext. bellad. gr. ss. ter in die.*

8*th*. Epiphora less; pain gone.

9*th*. Much purged.—*Omitt. med. Sum. opii gr. i.*

10*th*. Gums touched; conjunctival irritation less.—*Sum. 8va. q. q. h. Pil. hyd. gr. v. Pulv. opii gr. ss.—Rep. C.C.*

14*th*. Improves.—*Vesic. ad tempora.*

17*th*. Iris of natural colour.

23*d*. Ulcer healed; inflammation gone.

CASE 15. *Postfebrile Ophthalmitis; with onyx, and sloughing of cornea.*—13580. Janet Darling, aged 37. Jan. 2, 1844. Was seized with fever a month ago, and has for eight days been convalescent from relapse. At first convalescence complained of pain in and around right eye, and the inflammation of that eye has since been increasing. An onyx occupies the lower three-fourths of

cornea, which has ulcerated towards the nasal edge; the pupil can be seen by looking downwards over the upper edge of the opacity. Pain so severe as to prevent sleep. Conjunctiva turgid close to cornea. Is pale and feeble.—*Did not wait for the medicines ordered.*

3*d*. Onyx more extensive.—*Belladonna ad palpebras. Hirud. vi.*

4*th*. Pain less; cornea still more opaque.

5*th*. Cornea has sloughed.

Case 16. *Postfebrile Ophthalmitis, with lymphy effusion into anterior chamber. Use of mercury and belladonna. Cure.*—13600. Archibald Kean, aged 18. Jan. 9, 1844. Recovered about six weeks ago from relapse after fever. Five days previous to admission a musca appeared before left eye; while he has had pain in the eye for two days. He now sees merely the light, although the musca is still perceived. There is some tenderness of eye-ball, and moderate vascularity, chiefly sclerotic. The (grey) iris has become greenish; the pupil is contracted and sluggish; and there is a small onyx at lower edge of cornea, while the effusion of a minute quantity of lymph renders the edge of the pupil cloudy. Pulse rather feeble.—*V.S.—Bellad. ad palp.—Sum. vesp. pulv. purg.* ℈*j. c. m. sulph. mag.* ℥*j.*

10*th*. ℥viii. of blood drawn; clot soft, and covered with a gelatinous buff; onyx gone, but lower half of aqueous humour muddy; pupil moderately dilated; pain less; no tenderness.—*Rep. med. et sum. vini colch.* ℥*ss. 8va. q. q. h.*

11*th*. Can read large type.—*Rep. sulph. mag.*

12*th*. Mouth sore; onyx gone; veins of sclerotica gorged. There is still pain and intolerance of light.—*Sum. 8va. q. q. h. Extr. bellad. gr. ss.*

14*th*. Reads small type easily; iris still darkish, and pupil somewhat sluggish; redness less.—*Ceased to attend.*

Case 17. *Postfebrile Ophthalmitis, with opaque spots on the aqueous membrane, and vascularity of the iris.—Mercurialization.—Cure.*—13417. Joseph Carbrae, aged 20. November 13, 1843. Was seized with epidemic fever a month ago. After a week's illness, and half that period of remission, relapsed, and had a second attack. Eight days after, he began to complain of dimness of vision of right eye. He has for five days had ocular pain, worst at night, and can now read just the large type. Considerable vascularity; cornea hazy; its lining membrane speckled with lymph inferiorly. The originally brown iris is darkened, the pupil irregular, and fixed to capsule by two tags. Pulse feeble; bowels free.—*Bellad. ad palp.—Sumt. ter in die pil. cal. et opii.*

16*th*, Iris darker.—*Sumt. pil. 6ta q. q. h.*

18*th*, The tags of the pupil are vascular.

19*th*, Pain more severe; lower part of iris vascular. Bowels costive. Mouth sore.—*Sumt. pil. m. et v. tantum.*

20*th*, Pain gone. Reads small type easily. Cornea nearly clear. *Sumt. pil. vesp. tantum.*

22*d*, Pupil larger, and somewhat sensitive.

26*th*, Iris nearly of natural colour. Lower part of aqueous capsule still speckled. Redness of sclerotic nearly gone. *Omitt. pil.—Sumt. iod. potass. gr. v. ter in die.*

Dec. 3*d*, Vision nearly perfect. Two stools daily. Cornea flexible.

10*th*, Cornea less flexible; still somewhat speckled on inner surface. Vision perfect.

17*th*, Specks on cornea all but gone.

25*th*, Cornea clear. Tags of pupil continue.

Dismissed cured.

Case 18. *Very severe Postfebrile Ophthalmitis, with affection of the aqueous capsule, yielding reluctantly to repeated depletion and mercury.*—13628. James Laidlaw, aged 24. Jan. 17, 1844. Left eye has been atrophic since an injury received when four years old.

Recovered four months ago from relapse after fever, and two months there-

after he began to perceive muscae before right eye. Last evening redness, supraocular pain, and tenderness of eyeball came on. Could read small type till yesterday. The eyeball is firm; vascularity moderate; iris greenish; pupil sluggish and muddy; a small onyx at lower edge of cornea.—*V. S. Pulv. purg. vesp.—c. m. Sulph. mag. ʒi. Bellad ad palp.*

18*th*, Sixteen ounces of blood, clot sizy, loose and dark. Pain very slight. Pupil widely dilated and muddy.—*Ad palp. dext hirud. vi.—Sumt. ter in die pil. cal. et opii.*

19*th*, Onyx nearly gone. Pain of eye.—*Rep. hirud.—Sumt. pil. 6ta q. q. h. sumt. quoque vini colchici gtt. xl. ter in die.*

20*th*, Pain less. Lower half of lining membrane of cornea muddy, with a patch of lymph on its surface.

21*st*, Pain increased. Aqueous membrane still muddy, and covered with fine vertical streaks. Iris green. Considerable epiphora, but moderate redness. Mouth scarcely touched.—*Rep. V.S.—Sumt. sulph. mag. ʒss. statim; vesp. pulv. Doveri gr. viii.*

22*d*, Aqueous capsule clearer. Pain all but gone.—*Rep. hirud. et bellad.*

23*d*, Can distinguish the fingers. Aqueous humour clear. Gums touched. *Sumt. pil. ter in die.*

24*th*, Aqueous humour again muddy; iris greenish, and pupil still contracted. Sclerotic redness rather livid. Bowels costive.—*Om. Medr. sumt. Sulph. Mag. ʒss. et sumt. ter in die pil. hyd. gr. v.; ext. colch. gr. i.; ext. bellad. gr. ss.; bellad. et palpebras.*

25*th*, Pupil somewhat dilated. Lower part of iris presents a bloody patch. Throbbing pain of temples continues.—*Ad tempus hirud. viii.*

26*th*, Pain less; red spot on iris gone. Lower part of aqueous capsule again muddy.—*Vesp. pulv. Dov. gr. x.*

27*th*, *Rep. pulv. Doveri. cont alia.*

28*th*, *Vesic. pone aurem dext.*

29*th*, No change in the eye. Mouth sore.—*Omitt pil. Rep. pulv. Dov.*

Feb. 2*d*, *Rep. V.S. et Bellad. ad palp. et vesic. Capt. subm. Hyd. gr. i. 8va. q. q. h.*

3*d*, Blood buffy. Pain less.

5*th*, Says vision improved.

8*th*, Right pupil very irregular.—*Omitt. pulv.; Capt. 8va. q. q. h. Pil. cal. et opii.*

9*th*, *C. C. ad temp. dext.*

10*th*, Ten ounces of blood. Mouth not now sore.

17*th*, Mouth affected.—*Rep. vesic.*

27*th*, Pupil dilated widely.—*Omitt. bellad.*

March 3*d*, Vision clearer.

24*th*, Much improved.—*Om. pil.*

Case 19. *Postfebrile Ophthalmitis, accompanied with dilatation and insensibility of pupil, with slight amaurotic symptoms. Use of Dover's powder. Cure.*—13424. William Kean, aged 23. Nov. 15, 1843. Convalesced about three weeks ago from relapse after fever; and having since been exposed to cold, began about eleven days ago to observe muscae before left eye, vision with which soon became generally dim. He can at present just make out the small type. Slight supraocular pain. Pupil large, and nearly immovable. Tongue clean. Bowels free.—*Sulph. mag. ʒi.*

16*th*, Reads the small type easily. Pain gone.—*Sumt. ter in die Pulv. ipec. co. gr. x.*

17*th*, *Sumt. pulv. 6ta q. q. h.*

19*th*, Three stools; muscae fewer.—*Sumt. pulv. 3tia q. q. h.*

21*st*, One stool.

24*th*, Pupil smaller and more sensitive. One stool.—*Sumt. pulv. 4ta q. q. h.*

28*th*, Vision nearly perfect.—*Omitt. pulv.*

Dec 3*d*, Objective symptoms gone.

Dismissed cured.

Case 20. *Postfebrile Ophthalmitis without contraction of the pupil, followed by an affection of the retina alone of the other eye. Cure by venesection and mercury.*—13529. Helen Kean, aged 20, Dec. 17, 1843. Recovered six weeks ago from third relapse after fever; and eight days before present date, began to perceive muscae before right eye. They have now disappeared, but vision is so dim, that she can scarcely read the large type. Slight temporal pain, and much tenderness of upper and outer parts of eyeball, which are vascular. Both pupils large, the right sluggish.—*Hirud. vi. ad palp.; sumt. stat. pulv. purg.* ℈*i. Vespere sulph. mag.* ℥*ss.*

18*th*, No change.—*V. S.; sumt. vespere pulv. ipec. co. gr. xii.; Bellad ad palp.*

19*th*, Eight ounces of blood; clot rather small. Pupil excessively dilated. Pain gone.—*Sumt. m. et v. pil. hyd.*

24*th*, Vascularity of right eye gone, and vision perfect. Has for a day or two complained of dimness of sight and photopsia with left eye, without pain or any objective symptom.—*Hirud. iv. ad palp. sinist.*

25*th*, Photopsia gone.—*Sumt. pil. vesp. tantum.*

Case 21. *Postfebrile Ophthalmitis illustrating the effects of the disease on the contractility of the pupil.—Cure by mercury.*—14036. Mary Corrigan, aged 9, June 2, 1844. Had fever last autumn, and 10 days ago complained of right eye being painful. The vision has for four days been so dim that she cannot distinguish the fingers,—redness moderate, iris darkish, pupil dim and small,—*Hirud. vi. ad temp. dext. Pulv. purg. gr. xv. Belladonna ad palp.*

4*th*, Redness much less; can distinguish the end of a pen; pupil still small but clearer. *Rep. Hirud. iij. Pulv. purg. gr. xii.*

6*th*, *Sumt. m. et v. pil. Hyd.*

13*th*, Gums touched, pupils larger.—*Vesic ad tempus. Sumt. pil. 2 da q. q. nocte tantum.*

17*th*, *Rep. vesic.*

19*th*, Says vision is nearly perfect. Objective symptom gone, except that the pupil is still rather small.—*Bellad. ad palp. oculi utriusque.*

20*th*, Pupils dilated, but the right least so.

22*d*, Says she sees quite well. *Dismissed cured.*

Case 22. *Postfebrile Ophthalmitis neglected, ending in vascularity and opacity of cornea, and choroid staphyloma.*—13997. Mary Sutherland, aged 21, May 19, 1844. Had fever in last July; in January vision of right eye began to fail, and she had severe rheumatic pains in limbs. The eye has for six weeks been inflamed and neglected. Eyeball and all cornea except the opaque and yellow centre, vividly red, and a protrusion of the choroid coat has taken place at lower part of eyeball. The pain, previously severe, relieved since a purgative was given. Mouth slightly touched with mercury.—*Ad tempus dext. Hirud. vi. Sumt. pulv. Doveri g. x. Calom. g. iij v.*

23*d*, *Rep. pulv. et habt c. m. sulph. mag.* ℥*i.*

25*th*, Complains of hemicrania. *Rep. pulv.*

June 2*d*, Inflammation much diminished, protrusion gone, and lower part of eyeball shrunk.

9*th*, Cornea shrunk, and no longer vascular. Photopsia, but no perception of light. *Vesic. ad tempus.*

20*th*, Eyeball more shrunk. Just perceives the light.

Case 23. *Postfebrile Ophthalmitis—at first neglected, ending in a chroni sclerotico-choroiditis—cure.* 13968. Helen Burns, aged 33, May 7, 1844. Had fever last July; in the beginning of January left eye became affected with pain and failure of vision, and right eye so in a less degree. The latter is now well, but with the left she cannot read small type. The sclerotic immediately surrounding the cornea is unnaturally prominent, and of a dingy pink colour; the pupil bound by several tags to the capsule. Pain only occasional. *Bellad. ad palp. Sumt. ter in die Pil. cal. et opii.*

24*th*, Pain gone; eye improves; gums touched.

14*th* June. The sclerotica is thinner around the cornea, and still vascular; but she can read small type. *Omitt. pilul. Hirud. ij. palp. inf.*

30*th*, Eye continues to present the appearance peculiar to chronic sclerotico-choroiditis; the edge of the cornea is overlapped by an opacity of various breadth. *Sumt. ter in die iod. potassii. gr. v.*

July 17, Inflammation somewhat diminished.

Dec. 10, Inflammation gone. Eye natural, except an albugo on cornea, which is contracted in diameter.

Case 24. *Postfebrile Ophthalmitis, with development of vessels on capsule—Cure, vision nearly restored.* 13396. Daniel Macallister, aged 44, Nov. 3, 1844. Has had epidemic fever, accompanied by severe rheumatic pains, and followed by a relapse, from which he was convalescent ten weeks ago. Ten days before the present date, after a wetting, a musca appeared before left eye, and in four days inflammation of that eye came on. He can now read the numbers on tickets, and has much pain, chiefly at night. The eyeball is very red; the cornea cloudy, with the marginal white line; the (hazel) iris darkened, the pupil irregular, muddy, sluggish, and with a brownish red fringe-like border. Bowels free; pulse 60. *V. S.; Bellad. ad palp.; sumt. pulv. purg.*

4*th*, Clot of blood large and soft. Pain less. The pupil being somewhat dilated, the brownish fringe is seen to be composed of a dense wreath of looping vessels lying on the anterior capsule of the lens all round its edge. *Sumt. vini colchici gtt. xxx ter in die.*

8*th*, Has taken latterly ℥j three times daily, without benefit. The pupil is now widely dilated, showing the vessels more distinctly. *Omitt. colch. et sumt. 6ta q. q. h. pilulam. cal. et opii.*

10*th*, Mouth touched.

12*th*, Mouth sore; eyeball much less red, and cornea clearing. Pain less; vision improved. *Omitt. pilul.; sumt. sulph. mag. ℥j.*

14*th*, Can read large type. Cornea and pupil clear, and the latter of better shape. Iris of natural colour. Vascular wreath less dense.

20*th*, Inflammation gone, and pupil regular; vision improved. *Rep. sulph. mag.*

21*st*, *Sumt. ter in die iodid. potass. gr. vii.*

Dec 3, Has occasional photopsia; pupil lively.

17*th*, Vision continues to improve, but he cannot yet read small type. Looping vessels still seen on the capsule when the iris is withdrawn by belladonna.

Case 25. *Postfebrile Ophthalmitis with affection of the capsule, lens, and vitreous humour, and photopsia.—Cure.*—13624. Janet Burnet, aged 28, Jan. 16, 1844. Recovered about a month ago from relapse after fever, and in a week began to perceive luminous flashes before left eye; and in four days, having begun to work, the eye became painful. The photopsia continues, and she cannot read numbers on tickets. The eyeball is firm, and slightly reddened around cornea; the (grey) iris is somewhat greenish, the pupil sensitive, though rather small; the anterior capsule muddy, and presenting looping vessels around its circumference; pain slight and occasional; has been leeched.—*Ad. palp. sinist. hirud. vi.; postta. bellad. Sumt. vesp. pulv. purg.; c. m. sulph. mag. ℥ss.*

18*th*. Pupil irregularly dilated.—*Sumt. ter in die pil. cal. et opii.*

20*th*. Can read numbers on tickets; pupil clear, but vitreous body muddy. Still faint rosiness of sclerotic.

22*d*. Iris still greenish.

26*th*. No objective symptom except the irregularity of the pupil, and vascularity of the capsule; mouth sore.—*Omitt. pil.; sumt. sulph. magn. ℥ss.*

29*th*. Vision improves.—*Rep. sulph. magn.*

Feb. 5*th*. Reads the large type, but is troubled with muscæ before left eye.—*Sumt. iodid. potass. gr. v. ter in die.*

10*th*. Only one musca now seen.

19*th*. Musca much thinner, and seen to the left of field of view.

Dismissed cured.

Case 26. *Postfebrile Ophthalmitis,—showing the bad effects of irregular treatment.—Permanent opacity of capsule.*—13979. Elizabeth Gibson, aged 39, May 13, 1844. Recovered from fever two months ago. In three weeks muscæ appeared before right eye, which became painful a fortnight ago. There are now photopsia and blueish green muscæ, and she sees merely the light. No objective symptom, but moderate redness.—*Palp. bellad.—V.S.—Ad pulv. purg. vesp. c. m. sulph. mag.* ℥ss.

14*th.* Ten oz. of blood, not buffy; pupil dilated, with one tag.—*Sumt. pil. cal. et opii. ter in die.*

18*th.* Gums touched; pain increased.—*Hirud. iv. ad palp. dext.*

June 18*th.* Has not attended; got cold while mouth sore; the inflammation continues; iris greenish, pupil contracted and dim; pain severe at night.—*V.S. Bellad. ad palp.—Ol. ric.* ℥*j.*

19*th.* Twelve oz. of blood, buffy; pain continues.—*Ad temp. dext. hirud. vi. Sumt. vini. colch.* ℥*ss. ter in die.*

20*th.* Did not wait to be leeched; pain continues.—*V.S.*

21*st.* ℥xiv of blood; buffy.

22*d.* Pain undiminished;slight hypopium.—*Ad temp. dext. hirud. vi. Sumt. pil. cal. et opii. m. et v.*

25*th.* Pain continues.—*C. C. ad tempus.*

27*th.* Did not wait; intense pain continues.—*C. C.*

29*th.* ℥vi of blood obtained; pain less.—*Palp. hirud. vi.*

30*th.* Pain gone.

July 5*th.* No pain; still some redness; pupil contracted, capsule opaque; iris bulges forwards.—*Pone aurem. vesic. Sumt. iod. pot. gr.v. ter in die. Omitt. pil.*

10*th.* Some pain.—*Angulæ int. oculi. hirud. iv.*

12*th.* No pain; redness nearly gone.

Aug. 11*th.* Cannot read letters an inch long.

Case 27. *Postfebrile Ophthalmitis, with (?) an opacity of posterior pole of lens.*—13437. John M'Bride, aged 52, Nov. 21, 1844. Recovered a fortnight ago from second relapse after fever. During one of these attacks vision of both eyes became dim, and now he can with the right eye distinguish the fingers, with the left make out the numbers on the tickets. A red mist seems to hang before his eyes. There is no pain, and no objective symptom, except sluggishness of right pupil. Has been deaf since fever.—*Bellad. ad palp.*

22*d.* The pupils being fully dilated, there is now seen in the centre of each, but deeply seated, a squarish opaque spot, as of a patch of lymph on the posterior pole of the lens. The form of the spot much resembles that of the cellular union of the fibres in the posterior pole, as delineated by Henle.—*Sumt. pil. cal. et opii j. ter in die.*

27*th.* Mouth sore.—*Omitt. pil.*

Dec. 2*d.* No change in appearance of eye.

Did not return.

Case 28. *Postfebrile Ophthalmitis, with lenticular opacity; catoptric test.*—14055. John Bryson, aged 30, June 10, 1844. Recovered three months ago from fever, and has ever since perceived muscæ before right eye. A week ago the eye became inflamed, and the blindness has increased till he cannot now distinguish between the fingers; pain severe, but redness moderate; pupil muddy and sluggish.—*V.S.—pulv. purg.* ℥*i.: vesp. c. m. sulph. magn.* ℥*i.; bellad. ad palp.*

12*th.* ℥xvi of blood; clot buffy; pain nearly gone, and pupil is larger, but somewhat glaucomatous; deep erect image of a candle not visible; inverted image large and confused.—*Hirud. vi ad temp. dext. M. Sum. ter in die pil. cal. et opii.*

15*th.* Pain gone; mouth sore; can read numbers on tickets.

Case 29. *Postfebrile Ophthalmitis, with opacity of the lens, and of the vitreous body. Catoptric test.*—14083. Richard M'Intyre, aged 34, June 17, 1844. Re-

covered from fever three months ago, and vision of left eye has ever since been dim; but there was no inflammation till eight days before present date. He can now merely see the light; there is considerable vascularity of the eyeball; the pupil is irregular and muddy; no inverted image seen on using the catoptric test.—*V. S.—bellad. ad. palp.—sum. pil. cal. et opii i. ter in die.*

18*th.* Did not wait to be bled. There is now slight onyx at lower edge of cornea.—*V. S.*

19*th.* ℥xiv. of blood; clot buffy; pain less; pupil more sensitive; inverted image large and obscure; deep erect image also obscure and diffused.—*Ad temp. sinist. hirud. vi.*

20*th.* Pain less; can count the fingers.—*Vesic. ad tempus.*

21*st.* Can read numbers on the tickets.

26*th.* Mouth sore; pupil nearly clear; still slight onyx.—*Ad angul. int. oculi Hirud. vi. Omitt. pil.*

29*th.* Pain gone; redness much less; can read large type.—*Vesic. ad tempus. Bellad. ad palp. oc. utr.*

30*th.* Left pupil more dilated; a white moveable opacity floats to nasal side of vitreous body.

Case 30. *Postfebrile Ophthalmitis, with a ring of lymph on capsule, opacity of the lens, and an opaque body in the vitreous humour; catoptric test. Vision in great part restored.* 13998. Alexander Macneil, aged 18, May 20, 1844. Convalesced in December from relapse after second attack of fever. Eight days ago first observed dimness of vision of left eye, which was followed by inflammation. Has been bled, leeched, and mercurialized, and mouth is now very sore. There is considerable vascularity; the iris is green, and the pupil bordered by a ring of lymph upon the muddy capsule; has not much pain, but can just distinguish the light.—*Belladon. ad palp.; hirud. vi. ad tempus.*

21*st.* Pupil somewhat dilated; can distinguish the fingers.

22*d.* Pupil much clearer; bowels costive.—*Sulph. Mag. ℥i.*

23*d.* Pain occasional only; no deep image can yet be perceived on applying the catoptric test.—*Vesic. ad tempus.*

24*th.* Pain less; pupil clearer, so that an opaque body can be seen floating deep in the vitreous humour; inverted image visible, but indistinct.

29*th.* *Rep. vesic. sumt. potass. iod. gr. v. ter in die.*

June 11. Can read numbers on tickets.

Case 31. *Postfebrile Ophthalmitis affecting an eye which had suffered after typhus. Myopia. Deep-seated opacity. Restoration to state previous to attack.* —13629. William Fletcher, aged 19, January 17, 1844. Recovered six weeks ago from relapse after fever. Right eye has been weak, and has had muscæ before it since typhus fever two years ago. Eight days after last convalescence vision became worse, with photopsia; and now he can just perceive the light. There are inflammatory redness with ocular pain and tenderness of five days' standing. Eyeball firm; iris greenish; pupil fixed, contracted and muddy. Slight onyx at lower edge of cornea. Pulse weak.—*Ad palp. dext. hirud. viii., sumt. vesp. pulv. purg.* ℈*i et c. m. sulph. mag. ℥i., bellad. ad palp.*

18*th.* Pain less. Onyx gone.—*Rep. medic.*

19*th.* Pupil larger. Otherwise no change.—*Rep. hirud. et sumt. ter in die pil. cal. et opii.*

20*th.* Epiphora.—*Sumt. ter in die ext. colch. gr. i. ext. bellad. gr. ss.*

22*d.* Pain and epiphora gone. Debility. Can make out large type if placed within four inches of eye. Redness less; pupil clearer. Gums touched—*Sumt. pil. cal. et opii m. et v. tantum.*

24*th.* The pupil being now clear, a longish opacity is seen at the bottom of the eye. Reads to-day with ease at the ordinary distance. Gums sore. Redness less.—*Sumt. pil. vesp. tantum.*

26*th.* *Sumt. pil.* 2*da q. q. nocte.*

27*th.* Redness nearly gone. Iris of natural colour, and more sensitive. Opacity deep in eye much less distinguishable. Vision as at last report.

February 6. Vision improved.
March 5. Complains only of muscæ before eye.—*Omitt. pil.*

Case 32. *Postfebrile Ophthalmitis, affecting both eyes; opacities of capsule and lens. Myopia. Cure by mercury and depletion.*—14008. Hugh Macpherson, aged 19, May 23, 1844. Recovered from fever three months ago, and for a month vision of left eye has been dim. He can now make out the numbers on tickets. Has had pain for four days. There is considerable redness; the cornea is dull, and presents a small onyx at lower margin. Iris greenish; pupil small and muddy.—*V.S. bellad. ad palp.; pulv. purg. vesp.; c. m. sulph. mag.* ℥*i.*
24*th.* ℥xii. of blood; not buffy.—*Rep. medicam.*
25*th.* Pain less, cornea clear, and onyx gone. Pupil seen to be bordered by a ring of lymph.—*Sumt. ter in die pilul. cal. et opii.*
27*th.* Gums touched. Some redness of right eye.—*Sulph. mag.* ℥*ss.*
28*th.* *Vesic. ad tempus sinist.*
30*th.* Left pupil nearly clear; redness of right eye increased; sees best with left eye.
June 1. Nocturnal pain of right eye.—*Hirud. vi. ad palp. dext.*
3*d.* Pain gone.
4*th.* With right eye cannot distinguish the fingers.—*Rep. V.S.*
6*th.* ℥vii. of blood; not buffy. With left eye can read small type. Right pupil contracted; and there is a small onyx at the lower edge of cornea. Pain less.—*Rep. hirud.*
7*th.* Pain gone.—*Rep. sulph. mag.*
10*th.* With right eye distinguishes the fingers; onyx gone.—*Resp. hirud. et sulph. mag.*
11*th.* *Vesic. ad temp. dext.*
12*th.* *Sumt. pilulam m. et v. tant; sumt quoque iod. pot. gr. v. ter in die.*
13*th.* Can count the fingers with the right eye. Pupil larger, and with two tags. On applying the catoptric test, the inverted image is seen large and muddy. The eye presents a slightly glaucomatous aspect.
14*th.* Can read numbers on tickets.
15*th.* Says that he sees best in the morning.
18*th.* Inflammation much diminished; reads large type.—*Rep. vesic. ad tempus dext.*
20*th.* Myopia of right eye, the pupil of which is smaller than that of the left, but clearer. Both deep images distinct and clear.—*Bellad. ad palp. dext. et sinist.*
21*st.* Both pupils equally dilated.
27*th.* Inflammation and pain gone. Can read small type with both eyes; but there is a slight muscæ before the right. No objective symptom. Pupils equal. Myopia nearly gone.—*Omitt. pil.*—*Dismissed cured.*

Case 33. *Postfebrile Ophthalmitis; lenticular opacity—catoptric test; subsequent myopia—cure.*—14114. Francis M'Manus, aged 38, June 26, 1844. Had fever in December, and no affection of eyes till a fortnight ago, when vision of the left began to be dim; and in four days inflammation came on. He cannot now distinguish the fingers; there is considerable redness; iris darkened; pupil large, irregular, insensible, and muddy. No deep erect image to be seen on applying the catoptric test, inverted image scarcely visible.—*V.S.—pulv. purg.* ℈*i. vesp. Sumt. c. m. sulph. mag.* ℥*i.*
27*th.* ℥xvi of blood, clot not buffy; can make out the numbers on tickets; redness less; pain gone.—*Angul. int. oc. hirud. vi. Bellad. ad palp. Sumt. pil. cal. et opii. i. 8va. q. q. h.*
28*th.* Can read large type; increased pain last night.—*Rep. hirud. Sumt. ext. colchici. acet. gr. iij. 8va. q. q. h. Cont. pil.*
29*th.* Pain much less; both images distinct.—*Vesic. pone aurem sinist.*
30*th.* Vision improves, but pain increased; no stool.—*Rep. sulph. magn. Sumt. vesp. pulv. Doveri.*
July 1*st.* Pain still severe at night.—*Hirud. iv. ad tempus.*

3*d.* Can read small type; pain continues at night.—*Ol. ric.* ℥*i.; vesp. rep. pulv. Doveri.*

4*th.* Pain all but gone.—*Sumt. pilul. cal. et opii. mane et vesp. tantum. Repr. vesic.*

6*th.* Pain gone.—*Omt. medic.*

8*th.* Redness gone; reads small type easily, complaining only of slight general dimness of vision. Left eye myopic; he cannot make out distant objects; pupil of this eye is smaller than the other, but there is no difference between the eyes in point of firmness, or convexity of the cornea, whether judged of by looking at it in profile, or by comparing the images of a candle on each cornea. —*Bellad. ad palp. oc. utriusqu.*

9*th.* Right pupil most dilated; myopia less:—*Ablue bellad.*

10*th.* Left pupil of natural size, right still dilated. The interposition before the right eye of a diaphragm, with an aperture of the same diameter as the left pupil, does not affect the adaptive power of the eye.

11*th. Vesic. ad tempus.*

22*d.* Vision perfect at the normal distance; left pupil still the smaller. *Dismissed cured.*

Case 34. *Postfebrile Opthalmitis, with softness of eyeball, and myopia—cure.* —13647. Margaret Donochie, aged 18, Jan. 23, 1844. Since recovery, three weeks ago, from relapse after fever, has had much weakness, some œdema of feet, and epiphora of both eyes. Was exposed to cold two days ago, and yesterday morning began to see dimly with left eye, which became painful a few hours after. There is some tenderness of eyeball, which is somewhat softer than the other, and the sclerotic is rosy. Pupil sensitive; surface of iris dull; can read small type easily, but only when placed within four inches of eye; pulse feeble.—*Hirud. vi. ad palpebras. Sumt. sulph. magn.* ℥*i.*

24*th. Sumt. ter in die pil. cal. et opii.*

30*th.* Mouth sore; reads at the usual distance, and there are no muscæ: eyeball firm.—*Vesic. ad tempus. Omit. pil.*

Case 35. *Postfebrile Ophthalmitis; photopsia—Successful treatment by depletion, mercury, and colchicum—subsequent myopia.*—13635. Elizabeth Anderson, aged 15, Jan. 19, 1844. Recovered three months ago from relapse after fever. Two days before admission became affected with epiphora of right eye, with ocular and supraorbital pain. The eyeball is now soft and tender, and there is considerable sclerotic and some conjunctival redness. Was troubled at first with muscae volitantes, which now no longer exist; but she has had photopsia for two or three days back. Can just read numbers on tickets. The grey iris is slightly darkened, the pupil sluggish and dim; pulse quick, and rather weak. —*V. S.; bellad. ad palp. Sumt. vesp. pulv. purg., c. m. sulph. mag.* ℥*i.*

20*th.* ℥xii of blood; clot large, dark and soft; pain not relieved, but photopsia gone; redness less, and pupil of moderate size.—*Sumt. ter in die pil. hyd. gr.iv, Ext. colch. gr.i, Pulv. opii. gr.ss. Hirud. iv. ad palp. dextri.*

21*st.* Pain nearly gone; veins of sclerotic congested; no stool.

22*d.* Mouth affected; pupil clearer; reads numbers on tickets easily.—*Sumt. pil. vesp. tantum et ter in die vini colch. gtts. xxv.*

23*d.* Can just read large type; mouth sore.—*Omitt. pil.*

25*th.* Sclerotic congestion nearly gone, but minute vascularity continues; pupil clear.

26*th.* Reads large type easily; redness less; eyeball pretty firm, pain gone.—*Omitt. colch.; Sumt. sulph. mag.* ℥*ss.*

29*th.* Reads small type; sclerotic still slightly red; general dimness of vision, but no muscae.—*Rep. sulph. mag.*

30*th.* Some myopia.—*Vesic. ad temp. dext.*

Feb. 3*d.* Continues to improve.

Case 36. *Postfebrile Ophthalmitis, with softening of eyeball. Mercury and colchicum administered. The eyeball becomes firm. Cure.*—13479. Ronald

M'Donald, aged 30. December 1, 1843. Convalesced about two months ago from relapse after fever; and about a fortnight subsequently, having been exposed to cold, began to complain of hazy vision with left eye. A musca has been for a week back perceived on the field of view. There is no pain, and slight redness; the gray iris is unchanged in colour, but the eyeball soft. He can nearly make out the large type.—*V. S.; sumt. vesp. subm. hyd. gr. v., pulv. Doveri, gr. viii.; c. m. sulph. magn. ℥ss. Bellad. ad palp.*

2*d*, Pupil dilated, oval from a tag at its outer margin. Iris slightly greenish. Fifteen ounces of blood were drawn; clots sizy.—*Sumt. ter in die pil. cal. et opii.*

4*th*, Tenderness of upper part of eyeball.—*Hirud. iij. ad palpeb. sup.*

5*th*, Tenderness gone. Mouth slightly sore. Sees rather worse.—*Sumt. pil. vespere tantum.*

8*th*, Vision improves. Has no pain, but much epiphora.—*Rep. hirud.*

9*th*, Sees worse.

12*th*, Mouth sore. No pain. No stool.—*Sumt. pulv. jalap. co. ℥i.*

13*th*, Pain has returned.—*Sumt. vini colch. gtt. xxx. ter in die.*

15*th*, Pain gone. Vision improved.

17*th*, Has still occasional pain. Epiphora. Bowels costive.—*Aug. dosis ad gtt. l.; sumt. sulph. magn. ℥i.*

20*th*, Can read numbers on tickets.

22*d*, *Sumt. pil. m. et v. tantum.*

24*th*, Mouth sore. Can read large type. Eyeball firm, and redness all but gone. No pain.

26*th*, No objective symptom, except smallness of the pupil.—*Omitt. vin. colch.*

31*st*, Can read small type. A single musca before eye.—*Sumt. pilulam v. tantum.*

January 6, 1844, Musca thinner.—*Omitt. pil.; App. vesic. ad temp. sinist.*

9*th*, Reads small type easily.—*Rep. vesic.; bellad. ad palp. utriusq. oculi.*

10*th*, Left pupil much less affected than right.

14*th*, There is still a slight general dimness of vision, and a musca appears when the circulation is quickened.

Case 37. *Postfebrile Ophthalmitis, with affection of vitreous body, and paralysis of iris. Mercury, quinine. Cure.*—13594. Robert Moffat, aged 44. January 6, 1844. Since recovery a month ago from relapse after fever, has had general dimness of vision, without muscae, of the right eye, and it is increasing, so that he can now only read the numbers on tickets. There is no pain. Eyeball softish; gray iris unchanged in colour, but pupil large and sluggish. There is the faintest possible rosiness of the sclerotic. Pulse firm.—*V. S.; sumt. vesp. pulv. purg. ℈i.; c. m. sulph. magn. ℥ss.*

7*th*, Twelve ounces of blood; clot large and soft.—*Sumt. 8va q. q. h. pil. cal. et opii.*

9*th*, Gums touched.—*Sumt. pil. i. vesp. tant.*

10*th*, Belladonna having been applied to eyelids of both sides, both pupils are widely and equally dilated. Mouth sore.—*Omitt. pilul.; sumt. sulph. magn. ℥ss.*

12*th*, Rosiness of the sclerotic nearly gone.—*Vesic. pone aurem dext.*

13*th*, Can read the large type. Rosiness gone, but vitreous humour slightly muddy.—*Rep. sulph. magn.*

15*th*, *Rep. vesic.*

16*th*, Can just read the small type. Vitreous humour natural, but pupil still sluggish. Mouth is yet sore.

18*th*, *Rep. vesic.*

20*th*, Says vision is always clearer in the morning.—*Sumt. sulph. quin. gr. i ter in die.*

25*th*, *Rep. vesic.*

February 10. All but well.—*Omitt. remedia.*

Case 38. *Postfebrile Ophthalmitis affecting both eyes, with deep-seated opa-*

city, reflecting light from the bottom of the eye, and apparently behind the retina. —13503. Catherine Maccourt, aged 25. December 9, 1843. Has been for two months convalescent from relapse after fever. Three weeks ago, after exposure to cold, began to complain of dimness of sight with both eyes; and a fortnight after, having got a wetting, had rigors, increased dimness of vision, and pain. There is now much ocular and frontal pain at night. With the left eye she can distinguish the fingers; with the right merely light and shade: both eyeballs softish, with a good deal of dark redness of sclerotic; irides greenish; pupils contracted, irregular, and hazy. Bowels costive.—*V. S.; bellad. ad palp. Sumt. stat. pulv. purg.* ℈*i., et c. m. sulph. mag.* ʒ*i.*

10*th*, Only two ounces of blood obtained, in consequence of her getting sick. Pain less. With left eye she can read numbers on tickets. The pupil being somewhat dilated, a very distinct greenish reflection can be seen from the bottom of both eyes. Lens clear. There is no appearance of a moveable opaque body in the vitreous humour, but rather of a tapetum-like opacity of a concave form.—*Rep. med.*

11*th*, *Rep. med.*

12*th*, Right pupil most dilated. Mouth slightly affected.—*Rep. med.*

13*th*, Pain nearly gone. Mouth sore.—*Sumt. sulph. mag.* ʒ*i.*

15*th*, With left eye can read large type. Redness of this eye nearly gone; iris still green.

Left the Infirmary without leave, and did not return: the whitish-green reflection continuing.

Case 39. *Postfebrile, superadded upon scrofulous Ophthalmia, the latter continuing after the cure of the former. Lenticular and vitreous opacities—catoptric test—cure.*—14133. Alexander Thomson, aged 13, July 2, 1844. Ophthalmia scrofulosa of long standing, with small albugines on corneæ. Recovered about three months ago from the epidemic fever, and right eye has been for about a fortnight much inflamed, while vision is now so dim, that with this eye he can merely see the light. There is considerable redness; the eyeball is softish and the pupil muddy.— *V. S.; sumt. vesp. pulv. purg. gr. x. Bellad. ad palp.*

3*d*. Pupil dilated; did not wait to be bled, or for medicine.

4*th*. ʒviii of blood; clot not buffy; pain less.—*Sumt. pil. cal. et opii ter in die. Hirud. iv. ad palp.*

6*th*. Has still nocturnal pain; pupil still muddy; deep erect image not visible, though distinct in the other eye; inverted image rather obscure.— *Vesic. ad tempus.*

8*th*. Pain gone; gums affected.

10*th*. Colic and purging. Can just see the light; but pupil clear, though there is still considerable redness of the sclerotic.— *Omitt. pil; sumt. ter in die Pil. Hyd. gr. i; vesp. opii gr. i.*

23*d*. Pain and redness gone; eyeball nearly of natural firmness; can read numbers on tickets.— *Cont. pil. Rep. vesic.*

29*th*. Vision improved.—*Rep. vesic.*

31*st*. An opaque body is distinctly seen deep in vitreous humour; can almost read small type.

Aug. 7. *Omitt. med., et capt. o. n. pil. Plummeri.*

14*th*. *Capt. pil. m. et v.*

21*st*. Ophthalmia scrofulosa alone remains.— *Omitt. med.*

Case 40. *Postfebrile Ophthalmitis of severe character, with deep-seated opacity in eye.*—13535. James Clark, aged 20, Dec. 20, 1843. Convalesced a month ago from relapse after fever, and six days before present date began to perceive hair-like muscæ before right eye; he cannot now read the numbers on tickets. The eye has been inflamed for four days, and is now painful and tender; cornea dull. (Blue) iris greenish; pupil turbid, and slightly irregular.—*V. S.; sum. pulv. purg., et c. m. sulph. mag.* ʒ*i. Bellad. ad palpebras.*

21*st*. ʒxii. of blood, buffed; pain less; sees merely the light, and perceives numerous greenish muscæ; bowels freely moved.—*Sum. ter in die pil. cal. et opii.*

22*d*. Pain continues.—*Hirud. iv. ad palp.*
23*d*. Did not wait for the leeches.—*Bellad. ad palp. Appl. hirud.*
26*th*. Mouth sore; some pain of eye still.—*Rep. hirud.*
28*th*. Sees rather better, and pupil clearer; pain less.
31*st*. Pain gone; redness less; pupil not dilated by the belladonna.
Jan. 5, 1844. Can distinguish between the fingers.
7*th*. Pupil being dilated by the belladonna, a whitish reflection from the bottom of the eye becomes visible; can read the numbers on tickets; sees best in the evening.
Ceased to attend.

Case 41. *Postfebrile Ophthalmitis, with an opacity deeply seated in the eye, but in front of the retina—restoration to vision.*—13544. Margaret M'Ewan, aged 9, Dec. 21, 1843. Has been for three months convalescent from second relapse after fever. Right eye has been inflamed for a week, its vision having been dim for some time previously. She has now with it mere perception of light and shade; there is considerable redness, ocular pain, and tenderness; pupil dull.—*Hirud. vi. ad palp. dext.*
23*d*. Pain continues.—*Rep. hirud., et sum. subm. hyd. gr. iv., pulv. Doveri gr. viii.*
24*th*. General debility.—*Sum. ter in die subm. hyd. gr. iss, sulph. Quin. gr. ss.; omne nocte pulv. Doveri gr. vi. Bellad. ad palpeb.*
25*th*. Pain gone.
26*th*. Redness nearly gone; but from the depth of the eye at its inferior part, there is a distinct whitish reflection; she can distinguish the numbers on tickets when placed below the level of the eye, so that the image falls on the retina where there is no opacity to interrupt it; mouth sore.—*Sum. pulv. cal. et quin. vesp. tant.*
27*th*. Iris sensitive.—*Omitt. pulv.*
28*th*. Inflammation gone; mouth very sore.
Jan. 2, 1844. Vision improved.
6*th*. Reflection from bottom of eye diminishing.
15*th*. The opacity is now moveable; considerable debility.—*Sum. sulph. quin. gr. i. bis in die.*
20*th*. Right pupil the smaller since belladonna washed off.
26*th*. Can nearly make out the small type. Opaque body less distinguishable; eyeball firm and otherwise natural.

Case 42. *Postfebrile Amaurosis in a boy, with opacity deep-seated in the lens* (?);—*following inflammation. Results of catoptric test. Opacity dissipated.*—13972. James Gallocher, aged nine, May 9, 1844. Had fever six months ago; and has for some time complained of dimness of vision of left eye, preceded by pain and redness, which have now disappeared. Sees merely the light. Iris greenish and lively; pupil dull.—*Bellad. ad palp.*
10*th*. Both pupils being fully dilated, a diffused greenish brown opacity is perceived seated deeply behind the left.—*Vesic. ad tempus sinist.*
11*th*. On applying the catoptric test, the deep erect image is more distinct, the inverted one less sharply defined than in the right eye.—*Pil. hyd. j. m. et v.*
16*th*. Gums touched. *Pil. vesp. tant.*
25*th*. *Rep. vesic.*
June 1*st*. Some strabismus divergens of left eye. Vision somewhat improved.
20*th*. Has taken no pills for a fortnight. Can distinguish between the fingers. Inverted image natural. Deep image as before. Some slight brownish reflection is still to be seen at bottom of eye.—*Rep. pil. et vesic.*
July 5. Seems very slightly touched. Can read the numbers on the tickets. Pupil clear, and no opacity discernible.

Case 43. *Postfebrile Ophthalmitis, with a moveable opacity in vitreous body. Cure.*—13938. Mary Belcham, aged thirteen. May 1, 1844.—Was admitted yesterday by Dr Mackenzie. "Had fever three months ago, and is at present la-

bouring under postfebrile ophthalmitis of left eye. Sight so dim that she merely perceives light and shade. Sclerotica injected; pupil irregular.—*Bellad. ad palp. sinist.—sum.* 8*va q.q. h. subm. hyd. gr.ij., opii. gr.¼.*"

2*d.* Vascularity less.

3*d.* Mouth touched.—*Sum. pulv. vesp. tantum.*

5*th. Sum. pulv.* 2*da q.q. nocte.*

7*th. Vesic. ad tempus.*

10*th.* Mouth sore. The pupil having been widely dilated by belladonna, a diffused moveable opacity can be seen deep in the vitreous body. On applying catoptric test, image natural. Redness less.— *Om. med.*

21*st.* Gums still slightly sore.

26*th. Rep. vesic.*

31*st.* Opacity less. Reads small type.

June 10. Vitreous body almost quite clear.—*Rep. vesic.*

15*th. Dismissed cured.*

Case 44. *Postfebrile Ophthalmitis. Treatment without mercury by depletion, colchicum, and iodide of potassium. Cure.*—13386. William Docherty, aged thirty-six. Nov. 1, 1843. Vision with right eye has been dim since recovery, six weeks ago, from second relapse after fever. For four days he has had circumorbital pain during the day only. Iris clear; bowels regular. He cannot now read the large type; and he sees objects in the axis of eye worst, but his vision varies, and is sometimes much clearer. Sclerotic vascular, and cornea muddy, with a very distinct whitish line around its edge. Pupil contracted, irregular, sluggish, and nebulous.—*Bellad. ad palp.; V.S.; sum. sulph. mag.* ℥*j.*

2*d.* Clot of blood not buffy, large, and adherent to cups. Sees better, and has less pain. The pupil being somewhat dilated, is seen to be held to the capsule by two tags.—*Sum.* 8*va q.q. h. vini colchici gtt. xxx.*

3*d.* Can read the large type.

4*th.* Pain gone. Redness less.

6*th.* Can read the small type.

8*th.* One of the tags of the pupil has given way.

10*th. Vesic. ad tempus.*

11*th.* Bowels freely moved. Vision clearer.

14*th.* Reads more easily.

16*th.* General dimness of vision less; but an annular musca hangs before eye.

23*d.* Musca thinner and more diffused. Is purged.— *Omit. gtt.; sum. iod. potass. gr. v. ter in die.*

26*th.* Objective symptom gone.

Dec. 3*d.* A very thin cloud is perceived to the right of field of vision.

10*th.* Vision all but perfect.

Jan. 21, 1844. The faint cloud appears now only when bowels become costive. *Dismissed cured.*

Case 45. *Postfebrile Ophthalmitis, with an opacity at bottom of eye. Subsequent musca removed by gentle mercurials, when quinine had failed.*—13574. Catherine Rose, aged ten. Dec. 30, 1843. Has been for two months convalescent from second relapse after fever. A fortnight ago vision of right eye became dim, and muscæ appeared before it, and are still perceived, while the sight is so bad that she can just distinguish the light. Eye soft. Has for eight days had pain and tenderness of upper part of ball. The redness is now moderate, the (blue) iris darkened, the pupil irregular and dull, and two points of its edge are united by a transverse tag. There is a slight whitish reflection from the bottom of eye.—*Hirud. vi. ad palpeb.; sum. pulv. purg. gr.x.; c.m. sulph. mag.* ℥*iij.; bellad. ad palp.*

31*st.* Pupil irregularly dilated. Pain gone. Redness less.—*Sum. m. et v. pil. hyd. i.*

Jan. 3, 1844. Can distinguish the end of a pen. Pupil nearly regular.

15*th.* Inflammation gone.— *Vesic. ad tempus.*

16*th.* Mouth not yet affected. Objective symptoms gone. Vision improved. —*Sum. pil. vesp. tantum.*

18*th*. Can make out large type.—*Rep. vesic.*
19*th*. Reads small type easily.
23*d*. *Rep. vesic.*
28*th*. Still has muscæ floating before the eye. Pulse feeble.—*Omit. pil.; sum. sulph. quin. gr. j. ter in die.*
March 1. Has continued the quinine since last report. The musca is larger, and described as annular.—*Omit. quin.*
10*th*. No change.—*Sum. omne nocte submur. hyd. gr. j.*
May 11. Musca gone. Vision almost perfectly clear.—*Omit. pulv.*
Dismissed cured.

Case 46. *Postfebrile Ophthalmitis, with organic changes in iris and capsule, and yet tolerable vision.*—13429. William Cassils, aged 33, November 16, 1843. Recovered a fortnight ago from second relapse after fever; having been exposed to cold in a week thereafter, had next morning an attack of acute pain in left eyeball, the upper part of which is still very tender. There is much redness; the (blueish) iris darkened; the pupil contracted and irregular, muddy, and fringed with vessels on the capsule. Epiphora. Reads small type easily. (Blood was drawn, and the clot was buffed.) Did not return.

Case 47. *Postfebrile Ophthalmitis, with vision of objects as if through a red haze. Smallness of pupil. Cure by mercury.*—13458. David Bell, aged 26, November 25, 1844. After recovering, six weeks ago, from second relapse after fever, was exposed to cold; and nine days before present date began to complain of dimness of vision with right eye; he perceives no muscæ, but a red haze over everything he looks at. Has for a week had pain of eye, since the occurrence of which the amaurotic symptoms have been much diminished. Redness moderate; pupil somewhat hazy. Pulse weak.—*Bellad. ad palp.; sumt. m. et v. pil. cal. et opii.*
30*th*, Redness much less; pupil regular. Can read small type. Pain gone.—*Sumt. pil. j. v. tant.*
Dec. 4*th*, Objective symptoms gone, except that the right pupil is the smaller. Mouth sore. Sees nearly quite well.—*Sumt. pil. j. 2da q. q. n. tant.*
22*d*, Vision perfect. Right pupil still smaller than the other. *Dismissed cured.*

Case 48. *Postfebrile Ophthalmitis affecting the eyes in succession. Photopsia, Chroopsia, Muscæ; Cure.*—13615. Janet Watson, aged 14, January 13, 1844. Recovered two months ago from second relapse after fever, and shortly after, left eye became inflamed. It is no longer red or painful, but her vision with it, though improved, is still so dim, that she cannot make out small type. The right eye became inflamed when the left got better, and for this she was leeched and mercurialised. With this eye she can only read the numbers on tickets; and she perceives before it muscæ, and occasional flashes of red-coloured light. No objective symptom in either eye. Irides lively. General health good.—*Sumt. sulph. quinae gr. j. ter in die.*
18*th*, Thinks vision somewhat improved. Slight occasional pain over the right eye.—*Omitt. quin.; Hirud. vi. ad palp. dext.; Sumt. omne mane sulph. mag.* ℥*ij.*
21*st*, Photopsia less.—*Rep. hirud.*
23*d*, Luminous flashes appear yellow instead of red.—*Rep. hirud.*
Feb. 1, *Rep. hirud.*
12*th*, Photopsia gone.—*Sumt. iodid. potass. gr. j. ter in die.*
March 17, Numerous muscæ before right eye.
27*th*, Muscæ fewer, described as being angular, and sinking gradually when eye fixed on the window.
May 9, Coloured vision now only at night. With right eye can read small type.
25, Vision improved.—Chroopsia gone.
June 4, *Omitt. med.*
July 5, Vision perfect.—*Dismissed cured.*

Case 49. *Postfebrile Ophthalmitis complicated with periostitis of orbit. Cure.*—13863. William M'Ghee, aged 49. Admitted under Dr Mackenzie, April 6, 1844. "Had epidemic fever in November, and after his recovery began to complain of pain in upper edge of right orbit, where there is considerable swelling, stretching backwards along the roof of orbit, and downwards towards the nose. The integuments are red and tender. He opens the eye imperfectly, and the vision is dim. Bowels regular; tongue clean.—*Hirud. vi. ad tempus. Capt. pil. Hydr. j. o. n.*

9*th*, Pain less.

12*th*, Mouth sore. Symptoms abate.—*Omitt. pil. Sumt. sulph. mag.* ℥*j.*

22*d*, Swelling and pain gone.

28*th*, Vision still dim."

Case 50. *Postfebrile Ophthalmitis in a syphilitic subject. Good effect of bleeding and purging. Cure.*—13525. William Watt, aged 29. Dec. 16, 1843. During summer had an eruption on skin, rheumatic pain, and nodes; also an attack of inflammation of the left eye, with hemicrania. Recovered nine weeks ago from relapse after fever, and since then the pain of eye has been less than before, till eight days before present date, from which time the pain has increased, and the vision has become more dim, so that he can now scarcely distinguish the fingers. There is also considerable supraocular tenderness, and a good deal of redness; the (blue) iris is darkened, the pupil small and irregular. Pulse feeble; bowels costive.—*V. S.; Bellad. ad palp. Vesp. pulv. purg.*

17*th*, ℥xiv of blood drawn. Pain less, and he can read the small type. Injection much diminished.—*Rep. pulv., et sumt. c. m. sulph. magn.* ℥*ss.*

18*th*, Pain quite, redness nearly gone. Gums touched.—*Sumt. vesp. Ext. colchici acet. gr. ij.; c. m. rep. sulph. mag.*

19*th*, Redness gone; bowels freely moved; mouth sore. *Sumt. vesp. subm. hyd. gr. iij., pulv. ipec. co. gr. x.; c. m. rep. sulph. magnesiæ.*

24*th*, Objective symptoms gone, except a slight tag of the pupil. Very slight general dimness of vision. Mouth sore.—*Rep. sulph. magn.*

31*st*, *Sumt. sulph. quin. gr. j. ter in die.*

January 7, 1844, Vision and general health improved.

February 11, Vision perfect.—*Dismissed cured.*

Case 51. *Postfebrile Ophthalmitis in a person probably Syphilitic. Cure.*—14037. Ann Collins, aged 21, June 2, 1844. Had fever eight months ago; two months back right eye became inflamed, and its vision dim. She cannot now distinguish the fingers; there is considerable redness; the pupil is irregular and contracted.—*V. S.; Bellad. ad palp.—sum. vesp. pulv. purg.—c. m. sulph. magn.* ℥*ij.*

3*d*. ℥v. of blood drawn; clot buffy.—*Rep. med.*

9*th*. Has not attended; can read large type; there are two small condylomata on edge of pupil, and superficial ulceration on fauces.—*Vesic. ad. tempus; sumat pil. hyd. j. m. et v.*

14*th*. Mouth sore; pupil larger; can read small type; redness all but gone.—*Om. pil.*

Case 52. *Metastatic Postfebrile Ophthalmitis.*—13959. William Struthers, aged 20, May 4, 1844. Recovered from fever five months ago, and in a month thereafter had amaurotic symptoms, at first affecting left eye, but which, in three weeks, shifted to the right, leaving the left entirely. In two months more, without treatment, vision of right eye returned, and that eye is now natural in appearance and in function, except that the pupil is somewhat irregular. Four days ago there again occurred inflammation of the left eye, which is much injected; iris greenish; pupil contracted and dull; vision reduced to a mere perception of light; pain severe; pulse firm.—*V. S.—sum. pulv. purg.; c. m. sulph. mag.* ℥*i. Bellad. ad. palp.*

Did not return.

Case 53. *Postfebrile Amaurosis cured spontaneously. Subsequent attack of Inflammation in same eye.*—13860. John Lewis, aged 21, admitted under Dr Mackenzie, April 5, 1844. "Had fever four months ago, and shortly after convalescence, dimness of vision with left eye, which went away in three months. Eight days ago, after exposure to cold, the eye became inflamed; and with it he cannot read small type. The iris is green, and the pupil irregular."

Case 54. *Postfebrile Ophthalmitis in an early stage. Marked Amaurosis with sensitive pupil. Good effect of bleeding and purging. Cure.*—13646. Mary Ann Mackinlay, aged 21, January 23, 1844. Recovered six weeks ago from relapse after fever. For a week before present date had been exposed to a current of cold air blowing upon left side of head, but she experienced no inconvenience from it till four days ago, when she found on awakening in the morning, that she could just perceive the light with the left eye. Last night, for the first time, had some ocular pain. Eyeball firm, but tender; sclerotic very faintly injected, but pupil lively, and no other objective symptom; vision continues the same.—*V. S.—sum. vesp. pulv. purg., c. m. sulph. mag.* ℥*i.*

24*th.* ℥xii. of blood drawn, clot pretty firm, and adhering to cup; serum scanty; vomiting and purging; vision very nearly perfect; there being the slightest possible haze before the eye; eyeball still somewhat tender, and sclerotic rosy.—*Ad. palpeb. hirud. vi.*

25*th.* Sclerotic of natural colour; vision all but perfectly clear. *Dismissed cured.*

Case 55. *Postfebrile Ophthalmitis, with conjunctival irritation. Good effect of sulphate of quinine in the secondary Amaurosis. Cure.*—13455. John Brockie, aged 14, November 24, 1843. Convalesced three weeks ago from relapse after fever; having been exposed to cold, vision of right eye became dim ten days ago, and ocular and circumorbital pain, worst at night, came on next day; there is much redness and epiphora; the bluish iris is darkened, and the pupil irregular. Can read numbers on tickets.—*Sumt. tertiis horis nitratis potassæ gr. x.*

27*th.* Cannot distinguish the fingers; intolerance and pain continues.—*Omit. pulv.—V. S.—sumt. ter in die vini colchici* ℥*ij.*

28*th.* ℥x of blood, clot soft; visionsomewhat improved; considerable conjunctival irritation.—*Gtt. sol. nitr. arg. gr. iv. ad.* ℥*i.*

29*th.* No change.—*Capt. ter in die subm. hyd. gr. ij.; tart. antim., pulv. opii aa. gr.* ½. *Omit. colch.*

30*th.* Pain gone; reads numbers on tickets.

Dec. 2. Conjunctival irritation much diminished.

3*d.* Reads large type; mouth not affected.

5*th.* Redness nearly gone; eyeball still soft; reads small type easily; mouth not affected.

8*th.* Conjunctival irritation gone.

10*th.* Redness almost quite gone, but cannot read large type; pupils lively; bowels free.—*Sulph. magn.* ℥*ss.*

11*th.* Redness gone.

13*th.* Stationary.—*Omit. pulv.; sumt. m. et v. pilul. hydrarg.*

20*th.* Right pupil dilates less freely to belladonna than the left.

24*th.* No objective symptom, except that the pupil, though lively, is smaller, and the eye softer, than the left; cannot distinguish the fingers; mouth scarcely touched.—*Omit. pil.; sum. sulph. quin. gr. j. ter in die.*

31*st.* Can read large type; eyeball firmer, and pupil of the same size as that of the opposite eye.

Jan. 28. Has taken no medicine for a fortnight; objective symptoms gone, and vision perfect.—*Dismissed cured.*

Case 56. *Postfebrile opthalmitis, showing the immediate effect of bleeding, purging, and blistering on vision—Cure.*—13464. Helen Telfer, aged 15. Nov. 28, 1842. Recovered twelve days ago from an attack of continued fever, and the vision of left eye became dim the day before convalescence; has for three

days had supraocular pain and tenderness of eyeball, and cannot at present read the large type. There is not much vascularity; the (grey) iris is slightly greenish, but the pupil lively; bowels costive.—*Bellad. ad palp. V.S.; sum. pil. cal. et opii j. m. and v.*

29*th.* Pain less; can read large type. ℥ix of blood; clot loose; pupil fixed to capsule by two tags.—*Hirud. vi. ad tempus.*

30*th.* Gums touched; pain severe last night.—*Rep. hirud. ad palp.*

Dec. 1. Mouth sore; pain again last night; bowels costive; cannot read large type.—*Pulv. purg.*

2*d.* Can read large type; redness gone; pupil dilated and regular, but face of iris dull.—*Sum. pil. vesp. tantum.*

4*th.* Vision improves; objective symptoms gone.—*Omitt. med.*

6*th.* Reads small type easily.

13*th.* *Sum. iod. potassii gr. v. ter in die.*

Jan. 14. Has not attended; complains still of some general dimness of sight.—*Vesic. ad tempus.*

15*th.* Sees nearly quite well.

16*th.* *Rep. vesic.*

Dismissed cured.

Case 57. *Postfebrile ophthalmitis preceded by articular pain—dilatation of pupil—relief from colchicum—relapse—cure by mercury—second attack affecting opposite eye while under its influence—quinine injurious even when much debility.* —13395. Mary Cobourg, aged 18. Nov. 3, 1843. Convalesced a month ago from second relapse of the fever, which was accompanied with some articular pain. A week subsequently vision of left eye became dim, and that eye has been painful for ten days, chiefly at night. There is considerable, but chiefly conjunctival, redness. The (blueish) iris has become dark green, the pupil is large and insensible; can read the numbers on tickets; pulse 120, weak.—*Applic. hirud. vi. circum oculum. Sum. sulph. mag. ℥j.*

4*th.* Bowels scarcely moved; no change.—*Sum. ter in die vini colchici ℥ss.*

5*th.* Vision improved, and pain less; no stool.—*Aug. dosis ad gtt. xl.*

6*th.* Bowels moved; pain gone.

9*th.* Pupil of natural size; can read large type.

10*th.* Much nocturnal pain.—*Rep. hirud.*

13*th.* Cannot read large type; pupil somewhat irregular.—*Bellad. ad palp.: Sum. ter in die pil. cal. et opii.*

17*th.* Vision improved; gums touched.

21*st.* Mouth sore; can read large type easily; redness nearly gone; iris almost of natural appearance.—*Sum. pil. m. et v. tantum.*

23*d.* Complains of slight dimness of vision of the right eye, with the presence of a musca. The eye is faintly vascular.—*Sulph. quin. gr. j. ter in die. Omitt. pil.*

27*th.* Was exposed to cold two nights ago, and right eye has become more inflamed and painful; the iris is green, but she can read small type; mouth still sore.—*Pulv. ipec. co. gr. viii.*

30*th.* Returns to-day with increased inflammation of right eye, and severe pain; cornea nebulous, sclerotic vascular, and tumid around its edge; iris very green; sees merely light and shade; pulse rapid and feeble; with left eye can read small type.—*Omitt. quina. App. ad palp. dext. hirud. vii. Sum. ter in die subm. hyd. gr. ij, Pulv. opii., tart. antim. āā gr. ¼.*

Dec. 4. Can read numbers on tickets with right eye; cornea less nebulous; pain less; mouth sore; vomits powders.—*Omitt. med. Sum. m. et v. calom. gr. ij., pulv. Doveri gr. x.; et ter in die vini colchici ℥ss.*

Did not return.

Case 58. *Postfebrile ophthalmitis at an advanced age—mercury usefully employed—affection remittent.*—14141. James Brodie, aged 60. July 3, 1844. Recovered from fever in November, and the right eye has since been inflamed, at first remittently. He cannot now distinguish the fingers; left eye weak; redness slight; pain not severe.—*V.S.—Belladonna ad palpebras. Pulv. purg.*

5*th*. Redness almost gone, and pain less; pupil dilated; inverted image obscure.—*Sum. pil. cal. et opii ter in die. Vesic. ad tempus.*
8*th*. Pain and redness gone; vision as before; gums touched.
10*th*. *Omitt. pil.*
13*th*. Can read numbers on tickets.—*Rep. vesic.*
15*th*. No objective symptom; can nearly read large type.

Case 59. *Postfebrile ophthalmitis, not severe—administration of nitrate of Potass—cure.*—13435. Christina Macpherson, aged 14. Nov. 20, 1843. Dimness of vision with left eye, from the presence of muscæ before it; came on three weeks ago, being about eight subsequently to her convalescence from relapse after fever; she has had pain, worst at night, for a fortnight, and can at present read large type; there is slight redness; no other objective symptom.—*Sum. nitratis potassæ gr. x. 4tis horis.*
21*st*. Pain gone; can read small type easily; one stool.
23*d*. Muscæ gone; six stools to-day.—*Sum. pulv. 6tis horis.*
27*th*. Redness gone.—*Sum. pulv. 8va q.q. h.*
29*th*. *Omitt. pulv.*
30*th*. *Dismissed cured.*

Case 60. *Postfebrile ophthalmitis, not severe—treatment by antimony and colchicum, without effect:—by turpentine—cure—fresh attack in other eye—treatment by antimony and opium, with benefit.*—13404. Rosanna Gillies, aged 17. Nov. 8, 1843. Since recovery about a month ago from fever, has seen dimly with right eye, and it has been painful for five days, though without nocturnal aggravation. Can now with difficulty read small type; there is considerable redness of eyeball; the (blue) iris is greenish; looks thin and pale; pulse 116.—*Sum. 3tiis horis tart. antim. gr.¼ opii gr.¼.*
10*th*. Nausea, but no stool.—*Sum. sulph. mag. ℥ss.—cont. pulv.*
11*th*. Iris of a more natural colour; reads small type easily.
12*th*. Does not see so well to-day.—*Sum. vini colch. gtt. xxx. 8va q. q. h.*
15*th*. One stool.—*Aug. dosis ad gtt. l.*
19*th*. No improvement; had pain of eye last night.—*Omitt. med. et sumat sp. tereb. ℥j ter in die.*
21*st*. Redness less.
26*th*. Iris of natural colour.
30*th*. No pain or redness; pupil lively, but smaller than the left; vision still hazy.
Dec. 3. Cloud before eye, resolving into muscæ; one stool daily.
8*th*. Vision continues to improve.—*Omitt. sp. tereb.*
12*th*. Can see to sew. *Dismissed cured.*
Jan. 5, 1844. *Readmitted.* The right eye in all respects natural; day before yesterday had an attack of pain in left eye, which is now tender, with moderate redness; green iris, but lively pupil; no nausea, but vision dim, so that she cannot read small type.—*Sum. ter in die tart. antim. gr.¼. Pulv. opii gr.⅛.*
6*th*. Vomited each powder; pain and tenderness gone.
7*th*. Continues to vomit powder; redness nearly gone.—*Omitt. pulv.: sum ter in die vini colch. ℥ss.*
10*th*. Iris natural; sees as before.
Ceased to attend.

Case 61. *Postfebrile Amaurosis of* 16 *months' standing. Relief from Mercurialization.*—14872. Martha M'Comb, aged 45, May 21, 1845. Had epidemic fever 16 months ago; vision has since been becoming dim, but without pain or redness of eyes, which are both affected. Cannot now read large type; no objective symptom; pupils lively.—*C. ad nucham ad ℥viii. Sum. m. et v. pil. hydrarg.*
22*d*. No change.
24*th*. Mouth sore; vision improved—*Omit. pil.—vesic. pone aures.*
28*th*. Vision continues to improve slowly.
June 16. Reads large type easily.

ARTICLE III.—*On the Influence of the Endermic Application of the Salts of Morphia, in painful permanent Swelling of the Joints, causing Contraction. By* ANTHONY TODD THOMSON, M.D., F.L.S., *Fellow of the Royal College of Physicians, &c. &c., London.*

IN 1805, Dr Haygarth published an account of an affection of the joints, more especially those of the fingers, which he denominated "*Nodosity of the Joints.*" He described it as being almost peculiar to women, but seldom approaching until the period when the menses naturally cease. He made no anatomical examination of the diseased joints, although he considered that their enlargement and rigidity depended on a gradual increase of size in "the ends of the bones, the periosteum, capsules, or ligaments, which form the joint."[1] These joints were painful at night, often tender to the touch; and, as they increased in magnitude, they became distorted, and "in bad inveterate cases, even dislocated." Dr Haygarth regarded this disease in its nature more allied to gout than rheumatism, both in its characters, and in its attacks being more commonly experienced by persons "in the higher and middle than in the lowest class of life."

I have given the above brief account of the disease of the joints described by Dr Haygarth, in order to fix the distinctive characters which separate it from the affection which I am about to describe; for, although both have some features of resemblance, yet they cannot be regarded as the same disease. I must, however, add, that in several cases of real nodosity of the joints, which have come under my care, the greatest benefit was derived from the same plan of treatment that has proved so beneficial in this affection.

The disease, which is the subject of this communication, does not display itself at any particular period of life, nor is it confined to either sex. I have never seen it, however, in persons under the age of puberty. It appears, in every instance, to be the sequel of repeated severe attacks of acute rheumatism; and it has a greater affinity to inflammation of the synovial membranes, so graphically described by Sir Benjamin Brodie,[2] than any other disease with which I am acquainted. It sometimes appears in many joints at the same time, but most commonly it is confined to the knee-joints. As it usually follows soon after the last of the attacks of rheumatism which have preceded it, the pain of the joint is referred to a recurrence of the rheumatic inflammation, although it is commonly confined to the inner side of the knee, and is only severe when the joint is moved. In a few days afterwards, however, the joint begins

[1] A Clinical History of Diseases, Part 1st, by John Haygarth, M.D., &c., 8vo; Lond., 1805, p. 155.

[2] Pathological and Surgical Observations on the Diseases of the Joints, by Sir B. Brodie, Bart., &c. 4th edition. London, 1836.

to swell, and the enlargement is accompanied with contraction of the flexor muscles, so that the limb assumes a semiflexed position, and cannot be stretched out without considerable pain. There seldom appears to be much effusion of lymph, and the evidence of the presence of fluid in the joint diminishes as the swelling progresses, and ultimately it seems as if the enlargement depended altogether on the deposition of solid matter. At this period, the joint loses its mobility, and every attempt to extend the limb is productive of intense suffering to the patient. The pain, however, when the limb is left at rest, returns now only in paroxysms, which occur chiefly in the night. Sometimes there is considerable tenderness on pressure, and it is impossible, without extreme suffering, for the patient to put the foot to the ground so as to bear upon the limb; and this also occurs even when the limb is allowed to hang. I have never seen a case which terminated in dislocation of the affected joint; and although I have met with several cases of many years' continuance, yet I have never observed ulceration of either the cartilages, or of the bones of the joint. This affection is attended with little fever, or constitutional derangement, except where the patient has been exposed to cold, when the inflammation assumes an acute character. I am inclined, indeed, to think that the inflammation is usually of a chronic kind; and it only occasionally becomes acute from extraneous causes. I am fully aware of the difficulty of distinguishing between acute and chronic inflammation; but in the diseases under consideration, I have been guided by the degree of pain in the affected part; and the febrile action which accompanies its increase, in determining the existence of acute inflammation. Under such circumstances, also, when blood has been abstracted, it has always displayed the buffy coat. This is especially the case when the elbows and wrists, as well as the knees are affected. As the pain is greatest in the night, the patient is often worn out for want of sleep, and as he cannot take exercise, he lies and doses the greater part of the day.

I have had no opportunity of examining any joint affected with this disease after death, but I have no doubt that the inflammation is seated in the synovial membrane, which becomes thickened, and thus enlarges the joint, and renders it rigid. It is impossible to say how long the joints may remain in this state, if proper means be not adopted for their relief. I know a lady, now nearly sixty years of age, who has suffered under this disease, in almost every joint, for upwards of forty years. She is able to walk a little upon crutches; but she is so convinced of the impossibility of obtaining any relief from medicine, that she has refused to try the method of treatment which this paper is intended to bring before the profession.

The remedial means that have been usually employed in inflammation of the synovial membranes of joints; namely, Colchicum, Opium, Calomel, and antimonial preparations, with bark and the

decoction of Menyanthis *trifolinta*, remedies that have a powerful salutary influence in acute rheumatism, and in gout, have failed in my hands in affording either much relief from pain, or in aiding topical means, such as repeated cupping, blistering, and moxas, to restore the action of the joint in this disease. Under such treatment, the pain has been abated for an interval; but it has generally returned when an effort has been made to bear upon and to use the limb, or when the general health has become in the smallest degree impaired. Preserving the limb in complete repose, seemed only to favour the contraction, to render the immobility of the joint permanent, and to injure the general health. Douching, shampooing, and friction, with fomentations, have been productive of no benefit.

Reflecting upon the many disappointments that had followed my treatment of these cases, I was induced to think that much of the chronic inflammation was kept up by the pain, and if that could be reduced, and at the same time counter-irritation maintained, more permanent relief would be procured than had hitherto been the case. For this purpose I resolved to try the topical effect of the Hydrochlorate, or the Acetate of Morphia, the beneficial effects of which I had had several opportunities of witnessing in cases of *tic douloureux;* and in that phagedenic ulceration of the fingers, which occasionally occurs, and is extremely difficult of management. I blistered the affected joints, and sprinkled the blistered surface with either a grain, or a grain and a half of Hydrochlorate of Morphia, night and morning. The application caused a sensation of burning on the part, which, however, soon subsided, and left the joint in a state of comparative ease; and, after a few days, it was susceptible of a small degree of motion without pain; so that, in some cases, the patient was capable of extending the limb freely, after the tenth or twelfth application. In many instances, a particular eruption attends the application of the salts of morphia, occasionally commencing at the most distant point from the affected part, and gradually extending over the greater part of the body. In such instances, the disease has yielded more rapidly than when no eruption appeared, and the general health has not been affected by it. The eruption disappears soon after the use of the salt is discontinued. General remedies were occasionally employed along with the topical means, but these were necessary only in cases where the general health required correction.

The following cases, illustrative of the influence of the salts of morphia, have been selected from the clinical case-books of University College Hospital. The cases which I have had in private practice have been equally successful.

Case 1. Alfred Burrage, aged 29, a carpenter, was admitted into ward, No. 3, on the 21st November 1840, under Mr Samuel Cooper. He had been accustomed to much hard work, and to constant changes of temperature. He had long been liable to rheumatic attacks, and had been previously twice in the hospital for the cure

of that complaint, once under Dr Elliotson, and the second time under Dr Williams; and in both instances he was discharged apparently well. On the latter occasion, he left the hospital in May 1840. He states, that within the last two years, his knees have been swollen and painful, at least a dozen of times, and every time the joints have been blistered; and he has taken, internally, the Iodide of potassium.

The attack under which this patient now laboured commenced two months before, with general swelling of the knee-joints, accompanied with pain, increased on pressure. He was cupped in the worst knee, and admitted into the hospital under Mr Cooper. On examination, one knee was found swollen to twice its natural size, hot to the touch, and extremely painful on pressure. There appeared much effusion in the joint, and in the surrounding cellular tissue. He was unable to walk, or to bend the knee, without exquisite pain. The treatment adopted on this occasion was cupping; the repeated application of leeches, blistering, issues made with nitrate of silver, and the internal use of Iodide of Potassium, Dover's powder, narcotics, and bandaging. He gradually improved, and was discharged on the 14th of January 1841, apparently cured.

The patient, however, did not long remain well. In a few weeks after leaving the hospital, the knee again swelled, was painful and contracted, and he was readmitted on the 23d of March 1841, and came under my care. He was nearly in the same state as when admitted under Mr Cooper, except that the worst knee was less swollen, was stiff and hard, and no effusion was perceptible. The knee was ordered to be blistered, and the denuded surface sprinkled, night and morning daily, with a grain and a half of Hydrochlorate of Morphia, in fine powder. This treatment was continued, with evident benefit, until the 16th of April, when, owing to the difficulty of keeping the blistered part open, a moxa was applied, and the sore dressed daily with the same quantity of the Hydrochlorate of Morphia. On the 26th the pain had entirely left the knee, and the size of the joint was diminished; but he was now attacked with severe diarrhœa, which continued for a week. During that time the topical application of the Hydrochlorate was discontinued, and it was not renewed until the 10th of May, when another moxa was applied, and the sore dusted with a grain and a half of the salt, mixed with three grains of white sugar, in fine powder. As he had been much weakened by the diarrhœa, he was ordered the following draught, and a rather generous diet.—*R. Potassii Iodidi gr.* 15. *Decocti Cinchonæ flavæ, ƒ*3 12. *Haustus bis quotidie sumendus.*

Two days afterwards two grains of Disulphate of Quina were added, and the topical application of the Hydrochlorate continued.

May 14. A pustular eruption has appeared on the face and forehead, but the knee has been better since the appearance of the

eruption. The bowels are regular.—*Pergat in usu medicamentorum.*

17*th.* The knee is much smaller, and free from pain; the limb can be now fully extended.—*Pergat in usu pulverum.*

June 2. Complains of nothing but weakness.

14*th.* Has no pain, even when the joint is strongly pressed; the knee is reduced to its natural size, and he walks very well. Let the knee be surrounded with soap plaster, and a bandage worn for some time to come. He was discharged cured, and he has had no return of the disease.

Case 2. Thomas Jackson, aged 53, a labourer, was admitted into University College Hospital, 16th March 1841, under my care. About twelve months ago he had rheumatic fever, from which he rapidly recovered, and remained tolerably well for nearly six months, when he was attacked with pain in the loins, increased on the slightest exertion. Previous to this attack he felt pain in the right knee, which also felt weaker than the other: this had increased since the present illness commenced; and the joint is contracted. He now suffers much pain in the loins, passes large quantities of urine, of a natural colour and consistence. There is little constitutional disturbance, but the tongue is red, and the knee joint contracted. The bowels are freely opened every morning.

March 17. *Mittantur sanguinis* ℥*xvj. lumbis ope c.c. R. calomelanos, Opii, āā. gr. j. ft. pilula* 6*ta quâque horâ sumenda.*

These pills were continued with some benefit until the 24th, when the knee was cupped, and two days afterwards blistered, and the denuded surface dressed with a grain of Hydrochlorate of Morphia night and morning daily. On the 16th of April the report was the following:—"The swelling and pain of the knee are gone; he moves it without any uneasiness, and complains only of weakness." He was ordered to take f℥jss of decoction of yellow Cinchona, and f℥j of tincture of Serpentaria three times a-day. He was discharged cured on the 23d.

Case 3. William Lloyd, an upholsterer, (age not mentioned), was admitted a patient of University College Hospital under Dr Thomson, 16th October 1843. He is a native of London, of regular habits, works in a dry, open situation, and has never suffered from rheumatism. In November 1842 he contracted gonorrhœa; and three weeks afterwards, when apparently recovered, his left knee became painful, swoln, and stiff, for which he was admitted into this hospital under Mr Liston. He was subjected to local and general antiphlogistic treatment, and in five weeks was discharged relieved. He still, however, suffered from stiffness and pain of the joint, on which account he became an out-patient, but experienced little relief from the means that were employed. He now, 10th October 1843, complains of constant gnawing pain of the left knee, and both ankles; the joints are *stiff* and *swoln*, and the feet œdematous, and painful on pressure, but free from pain

when he remains still in the recumbent position. The pulse is 90; soft; and the skin is cool. The secretion of the kidney is natural and abundant.—*R. Potassii Iodidi gr. iv. Vini sem. colchii fʒss. Misturæ camphoræ fʒxjss. M. ft. haustus ter quotidie sumendus. R. Olei terebinthinæ fʒj. Tincture opii fʒvj. M. ft. linimentum parti dolenti, post pediluvium, maneque nocte quotidie applicandum.*

Oct. 13. The swelling of the ankles has abated, but the stiffness and pain of the knee, when it is moved, still continue.—*Appl. emplastrum cantharidis genu. R. Morphiæ Hydrochloratis gr. Sacchari purissimi pulv. gr. v. M. ft. pulvis, parti vesic. mane nocteque quotidie applicanda.*

This treatment was continued until the 24th, when every symptom of disease in the joint was gone; he walked well, and was discharged cured on the 26th. He continues well.

Case 4. Frederick Myers, aged 40, a carriage plater, was admitted into University College Hospital, under my care, 15th December 1843. Six years ago, he contracted syphilis, and was put under a course of mercury, in St George's Hospital, where he remained nine months, and was discharged cured. A year afterwards he was attacked with rheumatism, for which he was admitted into the Middlesex Hospital; and, at the end of three weeks, was disharcged relieved; but the ankle-joints remained swoln, and have continued so ever since.

Both knees are now swoln, stiff, painful, and contracted. He complains, also, of shifting pains in various parts of his body, increased at night, at which he perspires freely.—*Mittantur sanguinis brachio ʒxij. R. Calomelanus gr.ij. Opii gr.jss. ft. pilula post venæsectionum sumenda. R. Potassæ sesquicarbonatis ʒj. Vini seminum Colchici fʒij. Infusi Menyanthidis fʒ viij. M. sum. cochl. iij. majora ter quotidie.*

18*th.* The pains are removed, and he has no night perspirations; but the knees remain swoln, painful, and stiff.—*R. Morphiæ Hydrochloratis gr.j. Sacchari purissimi pulv. gr.v. M. Sit pulvis parti vesic. mane nocteque quotidie applicanda.*

This treatment was continued until the 13th of February 1844, when he was discharged cured. No eruption was caused by the salt of Morphia.

Case 5. William Salter, aged 37, a labourer, admitted into University College Hospital, 17th February 1844, under Dr Thomson. He states that he caught cold from sleeping in a damp bed, and was attacked with rigors, and with severe pains in almost every joint, especially in the ancles, shooting upwards.

Both knees are now swollen, painful, and contracted. There is more swelling of the right than of the left knee; but both are so painful, when the weight of his body is upon them, that he cannot stand. The elbow of his left arm is painful, but it is little swoln, and not contracted.—*Admoveantur hirud. viij genu dextro. R. Potassii*

Iodidi ℈x. Ext. Aconiti gr.j. Aquæ fʒjss. P. haustus ter quotidie sumendus.

20*th. App. emplast. cantharidis genu. R. Morphiæ Acetatis gr.j. Sacchari purissimi pulv. gr.v. M. Parti ves. mane nocteque quotidie applicanda. Pergat in usu mixturæ.*

This treatment was continued until the 24th, when, the rigors having returned, the mixture was discontinued, and another containing Disulphate of Quina, decoction of yellow Cinchona, and Nitric acid, was substituted for it.

28*th.* The rigors have disappeared; and the knees are so much better that he can walk without pain. He was handed over to the surgeons on account of a fistula. He recovered, and continues well.

Case 6. John Dorrington, aged 44, (occupation not mentioned,) was admitted into University College Hospital, 16th April 1844, under Dr Thomson. About three years ago, the knees became painful and swoln; they also gradually increased in size, and became stiff, until they were so much contracted that he lost altogether the use of his limbs. He now complains of pain in both knees: he cannot extend either limb; and suffers exquisite pain when they are attempted to be straightened. He does not perspire at night; the pulse is weak and quick; the skin soft; the tongue slightly furred; and the secretion of the kidneys natural. He is very weak; and he says that he has lost flesh, although his appetite is good.—*App. emplastrum cantharidis sing. gen. R. Morphiæ Acetatis gr.j. Sacch. purissimi pulvis gr.v. M. Pulvis, mane nocteque quotidie, partibus vesic. applicanda. R. Pil. Hydrargyri gr.vj. Conii extracti gr.xxiv. ft. pilulæ sex æquales. Sum. una stara quâque horâ. R. Potassii Iodidi ʒij. Potassæ liquoris fʒj. Aquæ fʒviij. M. Sum. cochl. iij. majora inter pilularum singulas doses.*

Under this treatment he rapidly improved; the swelling of the joints disappeared; and he was soon able to extend the limbs, which he said he had not done for three years.

April 25. His body is covered with a pustular eruption, such as frequently accompanies the endermic application of the salts of Morphia; but in every other respect he is greatly improved.

28*th.* The eruption has encreased, and coalesced in large blotches, which annoy him very much; but the knees are as well as ever they were in his best health. The blistered parts were healed; and infusion of Menyanthes, with compound tincture of Bark, and Nitric acid, given twice a-day until the eruption disappeared.

May 6. Discharged cured. He continues well.

Case 7. Charles Weeston, aged 43, was admitted into University College Hospital, under Dr Quain, house physician, in the absence of Dr Taylor, 5th August 1844. He is a married man; of slight conformation; is regular in his habits; and has no hereditary predisposition to disease. He says that he has not enjoyed good

health for the last four or five years, having had several attacks of what was called inflammation of the lungs. He also suffered from a cutaneous eruption, which from his description seems to have been ecthyma. His present illness commenced, four months ago, with pain in the shoulder of the right side, and then in the right leg. He has been unable to follow his trade for three months. At present, he complains of pain in the right shoulder, extending to the elbow: it is neither red nor swoln. He has pain in the right knee, which is flexed at an obtuse angle, and it cannot be straightened: the joint is, also, much increased in size; but it is not particularly hot nor red; all the tissues seem to be implicated. The limb itself is less stout than the opposite one. He suffers from indigestion; otherwise his health is pretty good. The pulse is moderately full, and 80. He was ordered a mixture containing Carbonate of Soda, infusion of Gentian, and Hydrocyanic acid. A blister was applied to the knee, and the denuded surface dressed with a grain of Hydrochlorate of Morphia night and morning. He steadily and gradually improved under this treatment; and he was discharged perfectly well on the twenty-fourth day after his admission.

It is unnecessary to detail more cases, as they would only appear a repetition of those already detailed. The conclusions to be drawn from these cases, and others of a similar description, are the following:

1. That in painful, swoln, and contracted joints, depending on rheumatism, or other causes, the topical application of Hydrochlorate, or Acetate of Morphia, to a blistered surface, on the affected joint, is capable of reducing the swelling, abating pain, and restoring the motion to the joints.

2. That these salts seem to produce these beneficial effects, by reducing the sensibility of the nerves of the joint, and favouring absorption by their counter-irritant influence.

3. That they do not act as general narcotics, until the joints are relieved.

4. That they frequently excite a pustular eruption over the body; but this disappears spontaneously, soon after the use of the topical application is discontinued.

ARTICLE IV.—*Cases in Surgery, from the Practice of* DR HANDYSIDE, F.R.S.E., *late Senior Ordinary Surgeon, now one of the Consulting Surgeons to the Royal Infirmary of Edinburgh. Reported by* JOHN STRUTHERS, ESQ., *Surgeon, Edinburgh.*

(Continued from page 264.)

IV.—CARIES OF THE TARSUS AND ANKLE-JOINT.

THE following cases illustrate well the improvement which has been

lately made in the treatment of disease of the bones of the tarsus and ankle-joint; and they may also assist in forming an estimate as to the relative merits of the operations of amputation below the knee and at the ankle-joint. Some of the cases, at the same time that they add instances in proof of the advantages and safety of the latter operation, point out an important modification in its mode of performance.

Case 1. *Amputation through the Leg. Recovery.*—Elisabeth Hutton, aged 12, from Dunfermline, was admitted into the Royal Infirmary, under Dr Handyside, on March 30, 1841, on account of disease of the right ankle-joint. The soft parts around the joint were much swollen. Several openings existed on each side beneath the malleoli, through which the probe passed readily into carious bone. The discharge was not profuse, but the patient was becoming hectic. Two years and a half before admission, the joint became swollen without any assignable cause. Six months afterwards it became very painful, and continued in this condition for a year, when the openings formed, and matter was discharged.

On the 12th of April, a consultation of the Surgeons was held on the case, when it was agreed to amputate through the leg. Next day the operation was performed through the middle of the leg. The flaps were made by cutting from without inwards. Seven vessels required ligature.

After the operation, the hectic declined rapidly; the flaps united by the first intention, except at their margins merely; and the patient was dismissed, cured, on the 30th of April.

Case 2. *Amputation below the Knee. Recovery.*—Cecilia Grant, aged 15, was admitted on March 22, 1842, on account of disease of the left foot. There was considerable pain, redness, and swelling over the ankle and tarsus; and, on the inner aspect of the latter, fluctuation was perceptible, but no opening then existed. About thirteen months before admission, the ankle and foot became swollen and painful, and had continued so, notwithstanding appropriate treatment. Openings were made by Dr Handyside to evacuate the matter, and through these the bones of the tarsus were found, on examination by the probe, to be in a carious condition. The patient became hectic, and, as this increased, it was agreed, at a consultation of the Surgeons, that amputation below the knee should be performed. This was done, on the 25th of April, by Mr Miller, in the absence of Dr Handyside. The flaps had healed partially by the first intention, when, on the fourth day after the operation, they became inflamed, and were attacked on their margins by phagedenic action, which was at that time prevalent in the hospital. Powerful escharotics were applied, after which the stump again became healthy; and the patient was dismissed, cured, on the 28th of May.

Case 3. *Amputation through the Leg. Recovery.*—Caroline Hamilton, aged 18, was admitted on March 6, 1843, with disease of the left ankle-joint. The joint was stiff and immoveable, the soft parts around it were much thickened and swollen, over it there were several ulcers, leading into sinuses, and also several unhealthy cicatrices. On passing the probe through the sinuses, the bones of the ankle-joint were found to be quite carious, and the lower extremity of the tibia seemed to be diseased for a short way above the ankle. The disease had existed for about twelve years, the patient having formerly refused to submit to amputation when proposed to her in the Royal Infirmary by Mr Liston. The patient continued in the hospital under palliative treatment till the month of August, when she consented to submit to amputation.

At first sight, the case appeared to be one fitted for the operation at the ankle-joint, which had been performed some time previously by Dr Handyside, in the case next related; but, from the disease appearing to affect the tibia for some way above the joint, from the great swelling of the soft parts, and from the ulcerated and otherwise unhealthy condition of the integument all around the joint, it was thought advisable to amputate some inches higher up. Accordingly, on the 1st of August, Dr Handyside performed amputation somewhat below the middle of the leg. The posterior flap was formed by transfixion, and by cutting from within, and an ample covering for the bones was formed. Five vessels required ligature.

After the operation, the patient's health improved rapidly, the flaps united by the first intention, except at their margins; and the patient was dismissed, cured, on the 22d of September.

Case 4. *Amputation at the Ankle-joint. Recovery.*—George Macdonald, aged 19, from Lanark, was admitted on April 25, 1843, on account of disease of the right foot and ankle. There was considerable swelling of the soft parts around the joint, and the latter was the seat of acute pain. Sinuses existed on each side of the joint, through which the os calcis and astragalus could be felt to be in a carious condition.

The disease was of two years' standing, and was originally caused by a severe sprain. The patient refused to submit to amputation till the month of July, when the pain became more severe, and hectic had set in.

The case was reckoned favourable for the operation of amputation at the ankle-joint, which was accordingly performed by Dr Handyside, on July 11th, in the following manner:—A strong bistoury was entered in front of the joint, and midway between the malleoli, and from this point an incision was carried forwards over the side of the instep in a semicircular direction, and then downwards to the middle line of the foot, terminating immediately in front of the ball of the heel. The extremities of this incision were

met by another and a similar one on the outer aspect of the joint, the second one terminating where the first had been commenced. The flaps were then dissected backwards,—the tendo Achillis was easily divided at its attachment to the os calcis,—and the separation of the foot was readily accomplished. The malleoli were removed by the saw, and along with them about one-eighth of an inch of the lower end of the tibia, although the cartilaginous surface of the latter was not diseased. Two vessels were tied, these being the anterior tibial and external plantar arteries. After the introduction of the sutures, which were five in number, the flaps covered the bone completely, and the ball of the heel was situated, as in the antero-posterior flap operation, below the extremities of the bones. A bandage was then applied to support the stump.

The flaps united almost entirely by the first intention, and a month afterwards the patient could rest his weight on the stump. The ball of the heel continued to form an excellent cushion beneath the ends of the bones. The cicatrix was situated vertically on the fore part of the stump, and it did not exceed two inches in length. The leg was only an inch and a half shorter than the other, so that the patient could walk easily with a high heeled shoe.

The accompanying sketches represent the line of one of the two similar incisions made in this case, and the form of the stump and leg, as copied from a cast taken upwards of two months after the operation.

Case 5. *Amputation at the Ankle-joint.—Recovery.*—Andrew Scott, aged 8, from Leith, was admitted on June 4, 1843, on account of disease of the left ankle. The joint was enlarged, painful, and distorted. An opening existed below the inner malleolus, through which the probe passed readily into the joint, and detected a carious condition of the astragalus. The affection arose, it was stated, from a sprain which he received six years before admission.

On the 11th of June a sequestrum was felt loose beneath the inner malleolus, and it was removed easily by dilating the opening. The sequestrum was found to be part of the astragalus, which was again felt to be quite carious. A consultation of the Surgeons was held on the case, when it was recommended to delay amputation, and to try the application of the red oxide of mercury.

On July 26th, he was sent out of the Hospital by Dr Handyside; and as the case did not improve, but still appeared to him to be one requiring amputation, he then performed the operation. This was done on the 14th of August, and exactly in the same manner as in the case last described. Two vessels only required ligature. The flaps united by the first intention, and a month afterwards the patient was walking freely on the stump. On examination afterwards the astragalus was found to be almost entirely destroyed by disease, and a large carious cavity existed in the upper portion of the os calcis.

At present the boy walks with perfect ease and freedom with a high heeled and padded boot, and he can rest the weight of the body on the naked stump without the smallest inconvenience. The cicatrix is about an inch and a half in length, and has not suffered at all from pressure. The ball of the heel remains beneath the ends of the bones, and forms an excellent protection for them. The leg is much smaller than the other, from the partial wasting of its muscles, which are now no longer required, and it is exactly an inch and a half shorter than the other. The accompanying sketch represents the form and length of the stump, and the difference in size, which now exists, between the legs.

Remarks.—The two cases first related occurred at a period when, for caries of the tarsus and ankle-joint, amputation through the leg was regarded as the established practice here as elsewhere.

In Cases 1 and 3, amputation was performed not immediately below the knee, as most surgeons recommend, but in accordance with the recommendation of Professor Ferguson of London, through, or rather below, the middle of the leg; as in my opinion, also, this part should be selected in preference to the former, when the surgeon has his choice. The danger to life is thus less, the stump, if well formed, is equally comfortable, and afterwards the limb is more serviceable, owing to the patient having free use of the knee-joint.

In Case 3, although previously the importance of amputation at the ankle-joint for caries occurring there, had been demonstrated by Professor Syme, and although the latter operation had been, as already stated, previously performed by myself, I preferred, for reasons already given, amputating a few inches higher up. It was afterwards seen that, as far as the bones were concerned, the operation at the ankle-joint might have been performed, but previously the efficacy of it seemed to me so doubtful, as not to warrant the attempt. Moreover, the danger attending the operation which was performed, though greater than that incurred by the operation at the ankle-joint, is not, I believe, as already stated, nearly so great as that which attends amputation immediately below the knee, which operation most surgeons would have regarded as the alternative in these circumstances; and I regretted the less being obliged to amputate through the middle of the leg, as after the latter operation the limb, with the appropriate apparatus attached to it, is equally useful to the patient as after amputation at the ankle-joint,—the motions of the knee being equally preserved in both.

The operation of amputation through the leg is no doubt more dangerous to life than that at the ankle-joint,—as is shown by the fact, that out of upwards of twenty cases in which the operation has been performed in this city, all the patients except one have recovered. But it appears to me to be an important observation, which is well illustrated by the results of the operations in Cases 1, 2, and 3, that the disproportion in the fatality would be much decreased, were we to reckon *only* those cases of amputation through the leg in which the operation at the ankle-joint might have sufficed. And accordingly, most of the fatal cases in which the former operation had been performed, would be found to be those where the latter was quite inapplicable, such as for acute gangrene of the foot—for severe injuries at the ankle, attended with extensive contusion and laceration of the soft parts—and for necrosis, severe compound fractures, &c., occurring in the lower or middle thirds of the leg, which do not by any means generally require amputation through the thigh or above the knee.

It follows, therefore, that the operation of amputation below the knee will still not unfrequently be required,—as amputation at the ankle-joint cannot supersede it in nearly all cases, and as the operation of amputation through the condyles of the thigh-bone,

as lately recommended by Mr Syme,[1] cannot properly supersede it in the remaining ones.

The greater safety of amputation at the ankle-joint over that through any part of the leg, is sufficiently accounted for by the comparatively small extent of the part removed by the former operation, and by the consequent slightness of the shock,—in accordance with the still established rule in surgery, that the danger is diminished proportionally as the amputation is distant from the trunk. It has lately, however, been conjectured by Mr Syme,[2] that much of the safety attending the operation at the ankle, as well as near other joints, is due to the circumstances, that the cancellated texture only of the bone is divided by the saw, and that the medullary canal is not opened into. This would be an observation of considerable importance in surgery, were it established. But the reasons which I have given above for the greater safety attending the ankle-joint operation are so obviously sufficient, that it is quite unnecessary to have recourse to any theoretical explanation in addition.

It may be that there is less risk incurred by the division of a bone through its cancellated texture than through its shaft; but we are still in great want of statistics sufficient to prove this. The results of amputation at the ankle-joint, as compared with that through the leg, cannot prove it, for reasons already given; neither for like reasons would it be proved, although the operation through the condyles of the thigh-bone was found to be less dangerous than that through its shaft; and it will be difficult to find those who will believe that, *cæteris paribus*, amputation below the knee is more dangerous than amputation through the condyles of the thigh-bone,[3] or that amputation through the trochanters of the latter is more safe than amputation through its shaft, until it should be proved by the evidence of statistics.

The operation of amputation at the ankle-joint was performed many years ago by various surgeons in France,[4] by the formation of antero-posterior as well as of lateral flaps, but generally in such a manner as not to afford a sufficient covering for the ends of the bones.

The projection of the malleoli formed one of the chief obstacles, but this difficulty was overcome by M. Baudens,[5] who practised and recommends removing them by the saw, and along with them part of the articular surface of the tibia.

A still greater improvement, however, that of making the covering flap from behind, so as to make the soft parts of the heel cover

[1] See Monthly Journal for May 1845.
[2] See Monthly Journal for August 1844 and for May 1845.
[3] See Monthly Journal for May 1845.
[4] See Médecine Opératoire, by Velpeau.
[5] See Médecine Opératoire, by Bourgery.

and protect the ends of the bones, seems also to have been first practised in France. This method is described by Dr T. King of London.[1] "The operation," says he, "might be performed by making a short flap in front, by a semicircular incision, extending from one malleole to the other. As the internal malleole descends less than the outer one, the joint should be opened on that side; the astragalus being luxated, the covering flap should be carved out of the soft parts of the heel.

The removal of the malleoles would allow an ample covering for the stump. Lisfranc, in his lectures, mentions a man on whom this amputation had been performed, who could walk ten or twelve miles a-day with great ease."[2]

The merit, however, of introducing this operation into regular practice is more especially due to Professor Syme, of this city. He was, I believe, the first surgeon who performed it in this country,[3] —who showed the importance of the operation, and how it ought, in many cases, to supersede the operation of amputation through the leg.

According to the method practised by Mr Syme,[4] the soft parts of the heel are included in the posterior flap, and the flaps meet transversely in front of the anterior margin of the lower end of the tibia. The cicatrice, however, is thus necessarily exposed to the pressure of the latter part, and of the bases of the malleoli, and also to the front of the boot or shoe. According to the method described in Case 4, the ball of the heel is also included, but the flaps are so formed as to meet vertically in front. The cicatrice thus—which afterwards does not exceed from an inch and a half to two inches and a half in length—lies between the soft part of the stump and the soft padding of the boot. By the latter method, also, there is no danger of sloughing of any part of the stump, as the posterior tibial artery is not divided, so as to cut off the principal vascular supply, but only its divisions into the two plantar

[1] Cyclopædia of Practical Surgery, article "Amputation," 1837.

[2] Since writing the above, my attention has been directed to some observations on this subject, in the Periscope of the *Northern Journal of Medicine* for September 1844, among which there is an interesting quotation from M. Malgaigne's *Manuel de Médecine Opératoire*, 1834, which the above quotation very much resembles, and which also goes to prove, that the practice of including the soft parts of the heel in the posterior flap was at least recommended first in France. M. Malgaigne writes as follows, page 247:—"Nous ferions donc un très-court lambeau en avant, par une incision demicirculaire aboutissant au bord postérior de chaque malléole. Puis l'articulation serait attaquée par le côté interne dont la malléole descend moins de quatre lignes que l'autre, et, la désarticulation achevée, on taillerait le lambeau aux dépens de la peau du talon, plus propre que tout autre, après la guérison, à soutenir le poids du corps. Et si les malléoles faisaient trop obstacle à la réunion, nous ne verrions aucun inconvénient à les retrancher et à obtenir ainsi le moignon le mieux conformé et le mieux revêtu, de tous ceux qui résultent d'amputations faites à la jambe et à la cuisse. M. Lisfranc dit dans ses cours, qu'il a pu examiner un homme amputé dans cette articulation qui avait conservé la flexion de la jambe, et qui pouvait, sans inconvénient, faire quatre à cinq lieues par jour."

[3] See Monthly Journal for Feb. 1843.

[4] See Monthly Journal for August 1844.

arteries; whereas, by the other method, the trunk of the former artery may be divided, and thus give rise to the serious consequence of at least partial sloughing of the posterior flap, as happened twice in cases related by Mr Syme,[1] the vessel having been divided accidentally in the one case, and intentionally in the other.

The operation can be much more easily and rapidly performed by the method of antero-lateral flaps, as the dissection of the os calcis from the soft part of the heel is thus much more easily effected,—the great bruising and twisting of the soft parts which occurs in the virus method of disarticulation is thus happily avoided, and primary union is thus more likely to take place. The operation could, if necessary, be still farther facilitated also by incising the pad of the heel backwards from the point where the two antero-lateral incisions meet. This would not interfere much with the subsequent usefulness of the stump.

In the method by antero-lateral flaps, moreover, should union by the first intention not be complete, the matter is allowed to drain off freely from the lavor commissure of the flaps, so as to render quite unnecessary the establishment of an opening through the integument of the heel,—the formation of which is recommended by Mr Syme,[2] in the method by antero-posterior flaps,—if, indeed, it has not been formed accidentally or unavoidably[3] during the tedious and difficult dissection which is required to separate the os calcis from its attachments.

In removing the malleoli, it is better to employ the saw than the cutting pliers, as, along with these points of bone, a thin slice of the lower end of the tibia ought always, in my opinion, to be removed. When the articular extremity of the tibia is diseased, this evidently must be done,—the surgeon then has no choice;[4] but even when the cartilage of the tibia is sound, as in Case 4, I would advise its removal, as it will accelerate the healing process, more especially if union by the first intention should fail.

Article IV. — *On the Arrow-root of Bermuda.* *By* Charles Cogswell, M.D.

In consequence of a certain want of clearness in works of reference, concerning the identity and structure of that part of the *Maranta Arundinacea* which yields the fecula called Arrow-root, I took the opportunity, while on a visit to Bermuda, from the latter part of February last, till the 20th of June, of paying some attention to

[1] See Monthly Journal for August 1844.
[2] Ibid. 1843.
[3] Ibid.
[4] See a case by Mr Syme, in the same, in which he seems first to have removed part of the lower end of the tibia.

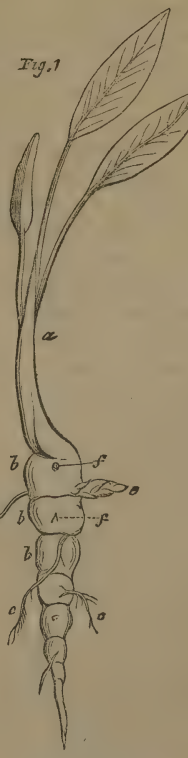
this subject. The term of my stay commenced towards the close of the arrow-root harvest, and from thence included only the early period of the growth of the new crop. I cannot, therefore, attempt to give a thorough systematic account of the plant from personal investigation; but it is hoped, under correction of the high authorities in question, that the observations about to be communicated respecting some points in its natural history, apparently not well understood, together with other incidental details, may be useful to the medical public.

The Bermudas, or Somers Islands, lying in latitude 32° 19′ 1″ N., and therefore near the boundary between the temperate and torrid zones, partake, as might be expected, of the peculiarities of both divisions, in the forms of their vegetation. Here, when I landed at St George's, were growing in the garden of the hotel, pease, carrots, potatoes, both Nova Scotian and sweet, lettuce, onions, and strawberries, under the shadow of oranges and lemons, roses in full bloom, the Bermudian cedar, the cotton, peach, pomegranate, the uncouth papaw, and the graceful banana (*Musa Sapientum.*) The tendency of the climate inclines, however, rather towards the equator than the pole; for although most of the common kitchen vegetables thrive luxuriantly under cultivation, one looks in vain for the apple and pear, the plum and cherry, which compose the staple of an English orchard. Patches, not to be called fields, of arrow-root, were visible along the road throughout the islands, and before many of the doors lay dozens of long wooden trays, exposing their white contents to the sun. The first exploring expedition, with reference to the object of this paper, was made in company with a friend, to a spot where we saw a negro leisurely employed in turning up a reddish-brown soil, scattered over with withered leaves. Here and there some more vigorous, or longer-lived specimen, contrived to sustain its head erect amid the surrounding decay. The man appeared somewhat perplexed with the meaning of inquiries founded on our pre-concieved ideas. To his apprehension the whole affair was perfectly simple. He had but to dig up a jointed root, shaped much like a carrot, break off a piece towards the smaller end, and cover it up again with earth,[1] to secure a new crop for next season, while the upper and thicker portions were thrown into heaps, preparatory to being carried to an adjoining mill, and converted into arrow-root. As for the Tous-les-mois, lately introduced, he seemed to regard it as an intruder, and pulled up a root, resembling three onions, "fused" together, which he put into our hands with an air of contempt. We had afterwards reason to think that his sentiments on this subject were not shared by the better informed of the population.

[1] Our informant was more indifferent than usual, to the agricultural rules of manuring and rotation.

According to Dr Christison, "the *Maranta Arundinacea*, now cultivated generally throughout the West Indies, was first transplanted into the English settlements from Dominica, about the middle of last century.[1] It belongs to the Linnæan class and order *Monandria Monogynia*, and the natural family *Drimyrrhizeæ* of Decandolle, and *Marantaceæ* of Lindley. It is a herbaceous plant, about three or four feet high." As respects all that appears above the soil, I have no remark to make, with this exception, that although an elevation of four feet is by no means without example, the growth which does not exceed an average of two feet is held in most esteem in Bermuda. Touching the root and its manufacture, every information in their power was afforded by intelligent persons engaged in the cultivation; upon whose explanation of specimens picked out of heaps upon the ground, and the examination of some that were sent to my place of abode, the following description is founded.

Figure 1 is a drawing made from nature, of one of the simplest forms which the plant presented. *a*, the herbaceous stem, *b*, *b*, *b*, the jointed root, *c*, *c*, *c*, rootlets.



We shall suppose a piece, comprising several of the lowermost joints, to have been broken off and deposited in the soil. From the side of one or more of the joints proceeds a shoot, which extends itself by the development of new joints, and throws out leaves which ascend to the height of two, three, or four feet. After the lapse of a stated time, that is, eight or nine months, the plant has arrived at maturity; the leaf withers, and the root prepares to propagate a new growth. It is now capable of *yielding the fecula*. But if allowed to remain much longer in the ground than is requisite for its own perfection, the simple form ceases to exist, in consequence of the addition of a young progeny of future plants, in the form of *tubers* also *yielding fecula;* and a degree of complexity prevails, which affords equal support to both parties who argue in favour of one or the other as the source of arrow-root. That the

[1] Mr Waterton found the plant growing spontaneously in Demerara. "This (to quote his own words) appears to be the native country of the arrow-root. Wherever you passed through a patch of wood in a low situation, there you found it growing luxuriantly."—*Wanderings in South America.*

question is one of some mystery, is evident, from the conflicting opinions even of persons practically conversant with the subject. The difficulty may in part arise from the circumstance of the seasons of harvest and planting being in fact so blended with each other, that no sooner is the vegetable prepared to multiply its kind, than it can proceed without interruption, so far as the climate is concerned. Such as above stated, at least, is the conviction impressed upon my mind, both from hearing and observation; and which is now to be submitted, whether for confirmation or disproof, to those who may have still greater practical opportunities of arriving at the truth. See Figure 1, where *e* is a young shoot coming out from the *rootstock* at an angle, and *f*, *f*, are buds like the *eyes* of a potatoe in an incipient state of development.

Figure 2 is a drawing made from another specimen, which affords a more perfect illustration of the supervening process of vegetation. *a*, the withered stem, *b*, *b*, *b*, new *plants* growing from between the joints of the rootstock, *c*, *c*, *c*, rootlets. It may be here observed, that the *rootlets* are not known, as supposed, to *swell out into tubers; d*, the shrunken remains of the setting of the previous season. A difference will be perceived between the exteriors of the rootstocks in the two figures. This is occasioned by the covering of "large, thin, pointed scales" (Christison) being allowed to remain in figure 2; they were so thin and closely adherent, as to partially permit the lines of junction of the root to appear from underneath; but in figure 1 they have been stripped off, in order to afford a distinct view of the subjacent structure.

The parts that yield the fecula, viewed externally, present a cream-white glistening surface, produced by the close aggregation of longitudinal fibres. On snapping one asunder, which is easily effected at the joints by the strength of the fingers, the fracture exhibits an intermixture of moist white fecula with the extremities of delicate fibres which slightly protrude. The process of separating the fecula is one that demands rather the exercise of skill and precaution, than the application of a great amount of mechanical force. In describing the various steps of the manufac-

ture, to which we shall now proceed, I cannot perhaps do better than follow in the track of the sable guide to whom our first inquiries were directed; not, however, so closely as to refrain from generalization.

The *first* object is to get rid of the thin paper-like scales above noticed. This is done either by the hand, or by means of friction in a hollow cylinder, composed of wooden bars attached to the circumference of circular boards, and made to revolve on its axis; in fact, not unlike a machine I have seen used for cleaning shot. *Secondly*, Passing into the interior of the mill, (a wooden shed divided by a partition,) we beheld two men busily employed in working an apparatus, almost identical in its construction with the common grindstone and trough. The wheel, which was framed of wood, was faced round the circumference with tinned iron, punched into numerous projecting holes, like a nutmeg-grater. Sometimes a fly-wheel is added. A third operator was moving to and fro, with the right hand, the upper end of a piece of board of the same breadth as the wheel, and so adapted to it at the lower extremity by a hinge construction, as to allow of his alternately introducing fresh supplies of the crude material, with the left hand, between the wheel and the board, and exerting a sufficient degree of pressure with the other, to cause it to be crushed and drawn down into the water trough. The whole substance was thus converted into a confused pulpy mass of fecula and fibrous matter. *Thirdly*, This was taken to the adjoining room, and put into a cylindrical sieve, fixed horizontally on its axis over a large tub of water, in which the lower half of it was immersed; to an axle passing through the cylinder were attached strong iron wires, bent like those of a wool-card, which, being turned by a handle, had the effect of washing out the fecula, and causing it to escape through the meshes to the bottom of the tub. *Fourthly*, The fecula was then successively washed over tubs through common sieves of gradually diminishing interstices, and when thought sufficiently pure, was allowed to settle until it coalesced into a solid mass. The use of water was now at an end. On being poured off, it left a brownish surface, which disappeared on being wiped, and the arrow-root was presented in the state of a white, firm, elastic cake. *Fifthly*, This is broken into little pieces, and exposed to the sun, if the wind be from the north; if southerly, when it is damp and unfavourable, the previous operation of a wooden press is preferred. When sufficiently free from moisture, it is spread upon seives with large wooden meshes, and exposed to the sun over trays into which it drops as the remainder of the water evaporates.

The chief precautions required in these operations are, to prevent the fecula from remaining too long in water, when it is apt to turn sour; and to employ that fluid in a state of the utmost attainable purity. The larger proportion of the water used in Bermuda is what

comes from the clouds; passing through a pure atmosphere, it is received upon the roofs of houses, or sloping platforms upon the ground, all kept scrupulously white and clean, and thence flows into capacious tanks. There must be no stint likewise of the quantity employed. About ten half hogsheads (which are the vessels commonly used as tubs) are necessary for three of arrow-root in the raw state. It is said that brackish spring water has once or twice been negligently employed; the curious effect of which was, that although no difference was perceptible at first, the article was found to assume a leaden tinge after reaching the London warehouse.

It will be remarked, in the perusal of these details, to how great an extent manual labour is brought into exercise. Time was, indeed not many years ago, when nearly the whole duty was performed by the hands, and the article used to fetch a dollar the pound. At present, however, although there are domestic manufactories still more primitive than the one referred to, there is a large establishment near the capital belonging to Mr H. J. Tucker, which is worked by horses, and produces the largest quantity made by any individual.

The Bermudian arrow-root has the reputation of being the finest brought to the British market. The causes of this superiority may be various. As far as could be ascertained, they appeared to reside partly in the purity and lavish expenditure of the water employed; partly in the honest intentions of the people, perhaps promoted by the scarcity of materials suitable for adulteration. Thus wheat and potato starch are neither of them ready at hand; the grain not being grown in Bermuda, and potatoes[1] fit for the table, bearing an average price of four shillings per bushel. To test the purity of the article when suspicious, the inhabitants apply the process of diffusion in water; genuine arrow-root subsides to the bottom in a few moments, but the presence of an inferior starch is denoted by protracted turbidity. For determining the presence of the Tous-les-mois, however, if that question should come to be raised, this method is not likely to answer, and the microscope may be resorted to, as recommended by Dr Christison, in order to distinguish the relative sizes of the globules. The plant called Tous-les-mois, "a species of canna," mentioned in the early part of the paper, is now cultivated to a small extent in Bermuda; some of the residents believe that the fecula prepared from it yields a stiffer and more permanent jelly than arrow-root; and, as the climate is exceedingly favourable, there appears no improbability that it may in time rival, if not supersede, the latter altogether.

The quantity of arrow-root manufactured this year in Bermuda

[1] The common potato is imported largely for consumption, and entirely for seed, from Nova Scotia and Prince Edward's Island, where it arrives at great perfection. Of late, more attention has been given to its cultivation in Bermuda; and, so satisfactory are the results, as to encourage a reasonable hope of being able to gratify the London epicures with abundance of new potatoes in the month of April.

may be estimated at about 400,000 pounds weight. Of this total, rather more than three-fourths have come to England. It is hoped there can be no impropriety in mentioning here, for the sake of those who may be concerned to know on uninterested authority where to apply, that the chief direct agents for Bermuda in London are B. C. T. Gray, No. 31 Great St Helens, and Johnson & Co., No. 5 Barge Yard; the supplies furnished by these gentlemen can be relied upon as confidently as if purchased in Bermuda. Arrow-root, in regard to *quality*, has been referred by writers to three classes, and stated to be put up in corresponding packages: the first in tin cases, the next in wooden boxes, and the third in barrels. In Bermuda, however, there is no such classification attended to; the very best may be put into barrels and the worst into boxes, according to the will of the individual who contributes his quota to the general stock in the market. To understand this, it must be borne in mind, that there is no recognised distinction in the quality of the root itself that should necessarily affect the value of the article produced from it; nor does there appear to exist that complexity in its organization, which in the instance of the cereal grains, is another obstacle to uniformity. Any difference of quality observable is occasioned by the greater or less skill of the respective manufacturers, none of whom, it may be supposed, would voluntarily stamp the results of their own best efforts with a conspicuous avowal of inferiority. And, after all, in circumstances where the whole product is essentially alike for useful purposes, the chief source of preference being merely fanciful, relating to the entire absence of colour, it requires no stretch of charity to imagine that the parties themselves may be often unconscious of any defect. Tin cases are rarely used. The boxes are made of white pine, and the barrels (to contain about 100 pounds each) are of white American oak, neither of which woods is apt to communicate stain or odour; for further protection, a lining of blue paper is interposed. This year, for the first time, Mr Gray has received a quantity put up, like starch, in 6 lb. *paper* parcels, which he considers to be the finest he ever saw.

We have hitherto delayed noticing what becomes of the refuse fibrous matter which remains in the early stages of the preparation of the arrow-root. This has been used as food for cattle, which purpose it is said to answer tolerably well. Of late, an attempt has been made to ascertain whether it may not be advantageously turned to account for making paper; to this end, a quantity was made into a kind of cloth, not unlike a coarse felt in appearance, and transmitted to England; but I learn that the sample prepared has not proved sufficient to permit a fair trial to be made, and that the intention is to await the arrival of an adequate supply.

Whether arrow-root shall ever thrive in England as an article of

rural economy, is perhaps hardly a question that deserves serious consideration, when we regard the warm temperature which it requires. But there appears no good reason why it should not succeed in an artificially qualified atmosphere, for the gratification of the curious and scientific. On embarking in the steamer Medway, on the 20th of June, I took on board a box containing several growing specimens of arrow-root and tous-les-mois. The latter plant much resembles arrow-root in its general style, but has a larger and more succulent leaf. A warm and sheltered situation having been allotted to them behind the funnel, they appeared at first to thrive tolerably; but, towards the termination of the voyage, which lasted thirteen days, the leaves were all withered at the edges, and some of them lay entirely dead, owing to unavoidable draughts, and changes of temperature. By the time of their reaching a hothouse near London, three weeks from leaving Bermuda, almost the only visible tokens of the arrow-root above ground were a few decayed leaves, but the stems at least of the others were still erect and green. There is little danger apprehended, therefore, as to the fate of the tous-les-mois; and even the arrow-root is thought likely, on examination, to spring up and flourish anew.

As it is possible that no attempt has before been made to raise these plants in Great Britain, I would suggest, for the benefit of any future projector of sufficient botanical zeal, the propriety of importing the roots in their fresh state, as dug from the soil in the months of December, January, and February. The constant and rapid communication by steamers renders this course more practicable now than formerly. The roots may be packed in the manner prescribed by authorities on such subjects, but with care to have them secured, both on board and after coming on shore, from the influence of the cold weather; and as soon as possible they should be established in a hot-house.

London, August 1, 1845.

Article V.—*Case of Infanticide. By* Dr James B. Wharrie *of Hamilton.*

(Communicated to the Medico-Chirurgical Society of Glasgow, on 9th September 1845. *By Dr King.)*

The following case appears of some interest to the medical jurist, in so far as it points out a novel and somewhat ingenious method by which the crime of infanticide may be perpetrated, and the guilty party enabled to escape the consequences.

A young woman who had previously given birth to two illegitimate children was, according to her own statement, seized during the course of the night, with abdominal spasms, which she attributed to cold, as her bowels had been, for some time, in a constipated

and disordered condition. After some delay and suffering, and while her mother who slept with her, had gone out to procure the assistance of a neighbour, she arose from bed under the impression that she was about to have a motion of her bowels, and there being no suitable convenience in the apartment, she sat down upon a large "croak" or earthen pitcher, which happened at the time to be full of water. Instead of the contents of the rectum, a child, and shortly afterwards an after-birth, dropped into the vessel, and she was rendered so faint and helpless by the hemorrhage which followed, that she was unable to look after the fate of her offspring. She was found sitting upright upon the vessel, by her mother and neighbour, the latter of whom immediately introduced her hand, and, after the whole of the forearm was immersed in water, (the pitcher being nearly two feet in depth,) she seized the dead body of an infant..

The child was buried on the following day, but rumours of foul play having reached the Procurator Fiscal, a warrant was granted by the Sheriff-substitute of Lanarkshire to disinter the body. It appeared she had made a person, with whom she had had illicit intercourse for five months, believe that she was pregnant to him, in consequence of which he had agreed to marry her, and at the time of this occurrence their banns had been proclaimed in church, and they were to have been married in a few days. The suspicion excited in the neighbourhood was, that having arrived at the termination of the ordinary term of utero-gestation, instead of the fifth month, and the father of the child being another than the intended husband, she had wilfully destroyed the evidence of her guilt.

The child was full grown and free from putrescency; it weighed 6 lbs., and measured 20 inches. There were no external marks of violence, and the cord had been secured. On opening the chest the lungs were found occupying only a small space, the pericardium being uncovered: they were of a dark liver colour, and when removed from the body along with the heart, and placed in water, they instantly sunk to the bottom of the vessel, and the same thing happened after the removal of the heart; when cut into pieces, and squeezed under water, they emitted no air bubbles, they weighed $2\frac{1}{2}$ ounces, and contained little blood. The right side of the heart was full of venous blood; the left was empty; the foramen ovale was open; the diaphragm was arched, and rose high into the chest; the contents of the head and abdomen were normal.

The opinion given by Mr Lennox and myself was, that judging from the size and general appearance of the child, and the state of parts discovered on dissection, it had been born at the end of the ordinary period of pregnancy; that it had never breathed, and that life might have been either wilfully or accidentally destroyed. The accused was so weak for ten days after delivery, that she could not, with safety, be removed to prison, but having got somewhat stronger she disappeared for some time. Her place of concealment having

been discovered, she was imprisoned during the investigation by the authorities, but on the case being reported to the Crown Counsel, her liberation was ordered.

It is feared that infanticide is not viewed, by a certain class of society, with the same detestation and abhorrence as other crimes of much less enormity. During twelve years, in which I have been occasionally employed by the authorities in medico-legal investigations, I have had 12 cases of infanticide, or, at least, of concealment of pregnancy,—a large number, considering the limited sphere of observation; and from the difficulty of obtaining proof, several of the suspected culprits were never brought to trial.

In the present case, the public prosecutor could not have established that the child was born alive; although there is a strong moral presumption that life was extinguished after birth. There are other circumstances, also, of a very suspicious nature. A woman who had been twice a mother, must have known that she was farther advanced in pregnancy than the end of the fifth month; and must, likewise, have been too familiar with the character of the pains of labour, to have been easily mistaken as to the nature of her illness. She had physical power sufficient to maintain the erect posture upon the pitcher, and the presumption, I think, is, that if she had wished, she might have saved the infant's life. At the same time, it must be conceded, that all the proof was corroborative of her statement, as to the birth having taken place while she was seated upon the vessel, and that there was no other convenience in the wretched hovel in which she resided.

Hamilton, 9th September, 1845.

Article VI.—*Ergot of Rye in Menorrhagia.* *By* R. C. Donaldson, Esq., *Surgeon.*

About four weeks ago, I was called to visit Janet Connel, aged 45, a widow residing in Darvel. I found her suffering from a violent attack of Menorrhagia, under which she had laboured for eight weeks. She was so weak, as to be unable to sit up in bed, even for a moment; and the slightest motion aggravated her complaint. Though naturally of a robust appearance, her countenance was now ashy and very anxious. She was much reduced in body and in strength, and complained of vertigo and palpitation. She informed me, that at first, she considered her disorder to be merely the reappearance of the catamenia after an interval of four months. For twelve months previously, she had been irregular and uncomfortable in her menstrual periods; and from this circumstance, taken in connection with the fact, that she had begun to menstruate very early in life, she was led to believe that she had attained the "change of life," and that the profuseness of the sanguineous dis-

charge was symptomatic of this crisis. The continuance of the disorder, and the great quantity of blood which she lost, convinced her that her case was urgent, and required medical advice. She now attributed her state to injuries sustained during her first labour, which was painful and protracted. The practitioner whom she consulted, prescribed tincture of the muriate of iron, under the use of which medicine she became worse, and was at last reduced to the almost moribund condition in which I found her.

I began by cautiously administering restoratives. The complaint returned, and was aggravated by the slightest motion. By the *toucher*, the uterus was found soft, relaxed, and tender. I tried *seriatim* without much good effect, all the usual remedies. Under these circumstances, and as the patient was fast sinking, I resolved upon giving her the ergot of rye.

Four doses of one drachm were prescribed, with instructions that one was to be taken morning and evening. The effects produced by the drug were very decided. The first dose caused speedy lassitude, and a peculiar creeping sensation all over the body. This soon ceased, and was succeeded by pain in the back and lower part of the abdomen. The cure was so rapid, that after the operation of the third dose, the discharge ceased. For a short time, it is true, she remained weak and exhausted; but she was not long in regaining strength.

To me this case appears highly interesting and instructive. It proves, I think, that the ergot has a decided effect in causing contraction of the relaxed uterus, even though the organ be in no way under the peculiar influences which exist in connection with parturition. It also shows the safety of administering the drug, and that the reputation of the ergot as a poison, ought not to prevent us from using it as a medicine.

While some dread the potency of ergot, others actually complain of its inertness! This arises from its being often injured by keeping; and sometimes, perhaps, from its being expressly adulterated. The genuine drug acts occasionally with apparent caprice, dependent on idiosyncrasy.

So much has recently appeared in this Journal[1] regarding the physiological and therapeutic properties of the ergot of rye, that extended commentary on the case which I have detailed seems unnecessary. I will simply remark, that I find it an invaluable remedy in flooding from abortions and other causes.

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[1] Vide MONTHLY JOURNAL, vol. for 1844, pp. 714, 723, &c.

ARTICLE VII.—*Labour complicated with Tumour in the Cavity of the Pelvis.* *By* SPENCER THOMSON, M.D., *Burton-on-Trent.*

THE following case of labour, complicated with tumour in the cavity of the pelvis, resembles, in some degree, one narrated in the *Northern Journal of Medicine* for August last; and is perhaps worthy of record.

February 24, 1845. 2 P.M.—My attendance was required on Mrs H——, aged 43. *Temperament*—Nervous-bilious. It was stated that labour had commenced at five o'clock A. M. of the 22d, and that strong pains, with occasional intermissions, had been present since that date.

A midwife had been in attendance.

At this time, strong dilating, slightly propulsive pains occurred every six or seven minutes. Pulse 80. Bowels and bladder empty. Strength and spirits good. Liquor amnii discharged some time.

Examination per vaginam.—Parts cool, moist. About the third sacral vertebral division, the finger encountered the commencement of an elastic tumour contained in a very strong envelope, which probably consisted of pelvic aponeurosis. This covering felt as if partly composed of thin plates of bone. The tumour increased so much in volume upwards, that two fingers could with difficulty pass the sacro-pubic diameter. The os uteri soft, dilated to half-crown size, was tilted quite over the symphisis; and it was only by carrying the finger over the pubis that the head could be touched, and then not so as to make the exact presentation clear. In these circumstances the forceps could not be used; and turning appeared a still less likely proceeding. The elasticity of the tumour, and my knowledge of a previous labour, determined me, if necessary, to puncture it. In the absence, however, of any symptom urging immediate delivery, even this I thought might be delayed. In two hours the os uteri had dilated to double its previous extent, and the obstructing portion of the tumour had somewhat diminished in volume. From this time matters gradually improved; the tumour was gradually displaced upwards; and at ten o'clock P. M. a moderate-sized child, in the first stage of decomposition, was passed. Mrs H. recovered without a bad symptom.

In this case, the elastic nature of the tumour would lead one to resort to puncturing before using other means more severe or dangerous; and, indeed, this same patient, nine years previous to the present date, when in labour of her first child, which was still-born, was only delivered after a tumour (I presume similar to the above) had been punctured, and a quantity of fluid evacuated. Between the first and last labours three children had been born without difficulty. The tumour certainly extends above the sacrum.

PART SECOND.

REVIEWS.

1. *The London Medical Directory.* 1845.
2. *Medical Directory of Great Britain and Ireland.* 1845.
3. *The Post-Office Edinburgh Directory.* 1845–6.

DIRECTORIES are,

Like Matrimony and Jeremiah's figs,
The good are very good,
The bad, too bad to give the pigs.

Your accurate Directory can, like a trust-worthy friend, be addressed on all occasions; but your careless, slip-shod compilation, is like a man of doubtful amity, whom you approach with hesitation and distrust. Unless, therefore, such works be good, one had far better want them; and this consideration has made us very scrupulous about either using or recommending Directories, until we have satisfied ourselves as to their veracity. That accurate Directories can be got up, there is no question, for the world has already seen such; the defect, then, lies in the want of skill or attention, on the part of compilers. Some Directories are more easily constructed than others; but provided the parties who undertake them, honestly have recourse to the materials fairly within their reach, no one is entitled to bark over critically; but if, as we shall speedily show, Directories are undertaken by parties who either do not know what is desiderated in such publications, or who, knowing, do not choose to minister to obvious requirements, no clemency should be shown. With these remarks, we proceed to the examination of the three guides before us.

1. *The London Directory* seems to be correctly compiled. We have frequently had occasion to refer to it, and, with a few trifling exceptions, have found it accurate; but we protest against its bibliographical obesity. Who cares about *all* the books, tracts, and magazine articles that any author has written, except the author himself? If lists of books be important, why not throw them into a separate appendix? The main point is, to get the correct addresses of the medical practitioners residing in London; their scribblings—and he who enumerates all his productions must register such—are another and subordinate matter. They swell the size and price of the book, and should be left out. We observe that many have the conscience to occupy full columns with the history of their achievements; but we beg to suggest to them, that the most befitting exercise of this kind is to endeavour to occupy a large space in some future history of medicine, as there is in reality no bravery in a man being his own annalist, in such an open field as a Directory. Napoleon was subdued when he reflected, that a quarter of a page in any general history would one day be his memorial. With this drawback of undue book-making, the Metropolitan Directory is good.

2. *The British Directory* is an inferior affair, even for a first publication. We freely admit, that a Medical Directory for Britain involves a considerable amount of labour; and had we any ground for supposing that that labour had

been entered on in an intelligent manner, we should have been prepared, like good recording intelligencers, to have mingled tears with our ink; but, as no such plea can in this case be urged, we have no alternative left but to apply the cautery. We are first treated to an alphabetical list of the licentiates of the Royal College of Surgeons, London, which, so far, is a good *historical* register; but as there are other colleges in Britain, this list is naturally defective. Even supposing that there were only one college in all Britain, this roll would still be of marvellously little utility; for, be it observed, that where residences are given, (and they often are not,) they are those of the parties *at the time when they received their diploma!* Consequently, no allowance has been made for migration from town to town, pole to pole, or even for removal

"To that bourne, whence no traveller returns."

But leaving this point. Scotland is an integral part of Britain—let us see how it has been attended to. Why, the medical information connected with this once independent nation is, with a little additional matter more suited for an almanack than a directory, summed up in a list of professors and lecturers, such as may be found in any annual pocket-book. No doubt we will be told that in the list of towns this defect is remedied. Well, we shall turn to that department; and there we find, under the head "Edinburgh," a list most wretchedly inaccurate, and looking for Glasgow we find it omitted! Now certainly this is inexcusable, for Glasgow, the third city in point of population in the empire, has its Directory, and in lieu of better information it could easily have been consulted. But, as will be seen anon, local luminaries are not much to be trusted; and the true way is to get direct information by circular communication with agents in all districts throughout the country. If this, or some similar comprehensive method cannot be adopted, the scheme should be abandoned. We have only to add, as a farther proof of incorrectness, that not only is Edinburgh the only Scotch town whose practitioners are given, but that many important English towns such as Newcastle are omitted.

3. *The Edinburgh Post-Office Directory* is glaringly inaccurate in its classified lists. That the editor of this work will insert in alphabetical order the names of those who give in their addresses to the letter-carriers, we verily believe;[1] but of all knowledge of the theory and practice of classification, in the section of his performance entitled "Professions and Trades," we hold him to be entirely guiltless. To establish this, we shall not travel much beyond the medical profession.

Supposing a valetudinarian stranger to take up his abode in one of our hotels, and to deem himself so ill as to require medical advice. He calls for a Directory, and turns to the list of Physicians or Surgeons, according as his case may be medical, medico-chirurgical, or purely surgical; and thinking his state desperate, he may probably wish to apply to some practitioner whom the Queen or the Town-Council have delighted to honour by a University chair. He finds no Professor in the list, and is left to wander amongst a mass of names of Surgeon-apothecaries *et supra*.

The answer to this will possibly be, that all the Professors will be found under the head "Professors," and therefore there is no need for inserting them as practitioners. Now this is hardly fair to professors, who certainly ought to have their chance of practice as well as their non-professorial brethren. But the plea of the impropriety of dual insertion cannot be pleaded, as Professor Christison appears as a "Physician," and Professor Miller as a "Surgeon." If Professors are to appear as such, wherefore do *they* figure in the general list? But turn we to "Professors." We find that this means the Professors of the University of Edinburgh, and of the New College, George Street,—but how you

[1] Even this faint modicum of praise cannot be given without qualifications, as we find that our worthy Edinburgh publishers are represented as occupying 38 instead of 58 Princes Street; and Professor Syme is dubbed M.D.—an honour he can well dispense with.

are to ascertain to which establishment most of the Professors belong, the Directory informs you not. In the cases of Sir George Ballingall, Drs Alison, Christison, Graham, Henderson, Mr Syme, &c., it cannot be discovered whether they belong to the University or not; but as Drs Traill, Simpson, Thomson, Mr Miller, &c., are said to belong to the "University," the presumption is that the former group do not belong to it. Dr Brunton's position is, if possible, still more equivocal, as he has the affix of "Col." attached to his name, a vocable which may in common be applicable to both institutions. But not to be too hard, provided we have a complete list of Professors, we should be thankful. But have we that? No!

In connection with Professors, one always thinks of a Principal—but no Principal is given. However, we shall even waive that, as the Directory editor may have had conscientious scruples about putting the caput amongst the members—but then unfortunately it happens that the Principal is a Professor and occupies no less a chair than that of Theology. Nevertheless, he is not in the list of Professors—neither is Dr Robertson, the Professor of Church History—neither is Mr More, the Professor of Scotch Law—neither is Mr Donaldson, the Professor of Music. The New College, considering that it has only five Professors, has fared still worse, for of these, two are omitted, viz., Drs Cunningham and Duncan. But the worst connected with the University is yet to come. It is bad enough to leave out some Professors, but what will our readers think when they are told that the University itself is left out? We turn to what is called the "General Directory," and we there find that there is a University Printing Office, (p. 136), but there is no hint given of a University; we turn to the Street Directory, and at pages 238–9, we have "South Bridge," where the University was wont to stand in massive glory, but the Directory directs not to the spot; and so, if we were the valetudinarian before designed, we should have to shut the book in despair and consult "boots."

Come we now to "Lecturers." We find that the following gentlemen, who delivered lectures during 1844–5, in the Extra-academical School, and who probably will do so in 1845–6, are omitted:—Mr Glover, Drs Duncan, Cormack, A. D. Campbell, and Howison. The answer to this may be that the missing lecturers will be found amongst the "Physicians" or "Surgeons,"—be it so—but has this been acted on uniformly? It has not, and therefore we cannot admit the plea that if the parties referred to do not appear as lecturers, they are to be found under another category. Besides, why retain Mr Miller's name as a Lecturer? He is a Professor,—but whilst most of his brethren are inserted in one capacity only—and some in no capacity at all—he has received the triple honour of being announced as a Lecturer, Professor, and Surgeon. Passing now to the simple lists of "Physicians" and "Surgeons," we might start ugly questions regarding them, such as where "L. H. Thatcher, 8 Albany Street," is to be found?—the pages of the Street Directory being themselves the judges, we turn to them. Under the head "Thatcher," we find "Dr John Thatcher" as the only medical gentleman of that name in Edinburgh, (and although his first designation is that of "consulting physician," he is in the classified lists inserted only as a "Lecturer.") Passing to the Street Directory, we find that Albany Street has no "No. 8." We might adduce more instances of this kind, had we time or inclination to wade through a mass of ungracious details, but we shall conclude with one omission more. Where is the Veterinary College?—not in Clyde Street, that we can see—where is its Professor?—assuredly not amongst the Professors. This is the sorest cut of all—for both edifice and teacher are silently passed over; a circumstance all the more extraordinary, as our respected friend Mr Dick's address is given in the Name Directory with exemplary distinctness. So much for errors of omission; there are also some of commission; *e. g.* the late lamented Professor Henderson is in the Street Directory as Professor of Practical Astronomy; and Dr Robertson appears as Professor of Church History, twice in one page.

And yet the volume in which all these blunders are committed, is one by which a good deal of money must be made, as the sale is large, and the services of the letter-carriers, by whom the information is collected, and the copies are

sold, can be had cheap. The public therefore are entitled to good work, and they should consent to receive nothing else. Sir Edward S. Lees gave his patronage to the work, but surely he could not have looked into it,—for we are confident that his respectable name would not knowingly be lent to anything of an undeserving character. His successor, we trust, will be more discriminating. Let the compiler look to it:—he has stultified himself in classifying every other profession as well as the medical, and if he does not reform, he will have opposition as he had before. But if he will not, or cannot mend, let him give up his facilities to those who can and will, and so secure to himself an honourable retreat.

Prospectus of the Physical Atlas. Edited by Dr Berghaus *and* A. K. Johnston, F.R.G.S. Edinburgh: John Johnstone, &c.

We beg to direct special attention to this important undertaking. Except in the German work of Professor Berghaus, no attempt has anywhere been made to exhibit the physical system of the earth by means of map delineation. The dwarfish science, hitherto cultivated in this country under the term Geography, no more deserves the name than a chronological table deserves to be called history: Geography does not consist of the mere names of those places which man has erected for habitations, nor of those of Nature's furnishing, which to him are useful or interesting. It had its expansive domain anterior to man's existence, and would still have its rich field of inquiry, could his banishment from its confines be regarded as a conceivable event. Wherever material nature developes local variety, it is the province of Geography to register that variety.

"Its march is on the mountain wave"

as well as in ocean's depths,—in the interior, the surface, and atmospheric covering of the earth,—amongst the flowers of the valley, the trees of the forest, the birds of the air, the beasts of the field, and in all the countless forms of vegetable and animal life, summing up indeed all that can in the eye of sense be called the world. Such a work involves a comprehensive design, but from the eminent scientific ability of the Editor, Mr A. K. Johnston, and the enterprising character of his publishers, we confidently anticipate success.

Outlines of Organic Chemistry. By Professor Gregory. 12mo. Pp. 588. London.

The second part (Organic Chemistry) of Professor Gregory's Outlines, is now published, and surpasses even the highest expectations excited by the manner in which Inorganic Chemistry was treated by the author. It is a concise, clear, and elegant statement of our whole positive and supposed knowledge in Organic Chemistry up to the date of publication. Dr Gregory follows the general arrangement adopted by Professor Liebig in his German edition of Geiger's *Handbuch der Pharmacie*, and in his newest work on Organic Chemistry, published in French, under the superintendence of Mr Gerhard, (*Traité de Chimie Organique*, 3 vols. Paris, 1845.) But instead of following slavishly his great and much admired friend, he has also kept in view the most important researches of other chemists, particularly those of the French school. For instance, his representation of the theory of substitution and of the chemical types, which is of French origin, (Laurens, and so severely attacked by Berzelius,) forms one of the finest parts in the book. We would call particular attention to the general view of those theories, given at p. 249, and to the explanation by the apposite example, Naphthalim, at p. 515.

In the same manner, his account of the new organic bases containing platinum in the radicle, is, we think, the most complete and clear statement of those very interesting compounds which exists. For the progress of chemical knowledge in Great Britain, such a book as the Outlines was very much required. Perhaps some readers, principally physicians, could desire, that the author had given more extension to the part, treating the relation of organic chemistry to the physiology of animals and vegetables, and probably more details from Professor Muller's newest work. But the narrow limits which the author seems to have laid down for his "Outlines," have likely prevented him from entering more fully into that important field of science.

Handbuch der menschlichen Anatomie, Durchaus nach eigenen Untersuchungen, und mit besonderer Rücksicht auf das Bedurfnigs der Studirenden, der praktischen Aerzte und Wundärzte und der Gerichtsärzte verpasst Von Carl. Friedr. Theod. Krause, M.D., *Kön. Hannov. Medicinalrathe, und Professor der Anatomie.* Erster Band in drei Abtheilungen, ect. mit Tabellen und Registern. 8, p. 1105. Hannover: 1838.

Of the numerous works upon Descriptive Anatomy which, since the commencement of the present century, have issued from the British and the Continental press, few have escaped our scrutiny; but no one has so nearly come up to our standard of perfection, as the *Manual of Human Anatomy*, by the Hanoverian professor, Krause. The first volume only, consisting of three parts, has yet reached this country. These parts comprehend, with an interesting section "On the constituent parts of the body in general," the structure of the osseous, muscular, vascular, and nervous systems, the organs of the senses, of generation in the male and female, the respiratory, chylopoietic, and aropoietic apparatus. The style of the work is simple, luminous, and concise, such, in fact, as should characterise all scientific writings, without unnecessary or tedious minuteness. The two following extracts, taken indiscriminately, will, we think, while exhibiting fair specimens of that style, fully justify the eulogium which we have pronounced upon it.

"The lesser pectoral muscle, pectoralis minor, seu serratus anterior minor, (kleiner brustmuskel), triangular, flat, covered by the pectoralis major, and deltoides muscles, arises, in the mammillary region, from the external surfaces, and superior margins, of the third, fourth, and fifth ribs, by three digitations; passes upwards and outwards, becoming more slender, and inserted, by a short tendon, into the apex of the coracoid process. Draws the shoulder downwards and forwards. When the shoulder is fixed, it elevates the ribs to which it is attached." Pp. 243, 244.

"Arteria ophthalmica (Augenschlagader) three-fourths of a line in diameter, is distributed not only on the parts in the orbit, but on the frontal region, the anterior portion of the nasal cavity, and dorsum nasi. It goes forward through the foramen opticum into the orbit; runs, at first, on the inferior and external side of the optic nerve, and here gives off the arteria centralis retinæ, lacrymalis, and muscularis oculi; passes obliquely inwards above the optic nerve, where the arteria supraorbitalis, and ciliares posteriores arise from it; then winds for wards to the internal parietes of the orbit beneath the superior oblique muscle, and gives the arteriæ ethmoidales; it then divides, between the trochlea of the superior oblique muscle and internal palpebral ligament, into the arteriæ palpebrales, frontalis, and dorsalis nasi." P. 663.

The individual branches of the vessel are afterwards most clearly and succinctly traced.

Our anxious inquiries for the second, and, we presume, last volume of this masterly work, have, hitherto, been unavailing. Meanwhile, we will say, that we know not any book which the British student of German medical literature can peruse with greater interest and profit, than the "Manual" of Professor Krause.

An Inquiry into the Homœopathic Practice of Medicine. By WILLIAM HENDERSON, M.D., *Professor of Medicine and General Pathology, and lately one of the Professors of Clinical Medicine in the University of Edinburgh.* 8vo, pp. 241. 1845.

THE beginning of the end of Homœopathy is at hand. Hitherto its advocates have been such, that it stood greatly in need of being saved from its friends; but now that its defence has been formally undertaken by an Edinburgh Professor of acknowledged ability, we may reasonably conclude, that all has at last been done for it that argument can do. And what has now been done? Why, although we have the round number of 122 cases, the cures (?) have no more necessary connection with homœopathic treatment, strictly so called, than the employment of Parr's Pills, the Royal Touch, or that last new medical remedy, the Holy Coat of Treves, have to do with the miracles which they are said to have accomplished. If there were any who regarded the suspension of the author from clinical teaching as a harsh act of the Medical Faculty, it had been better that he had contented himself with the sympathy of his friends; for, by "writing a book," he has despised even the wisdom of Solomon, and put into the hands of his "enemies" a bent lever which can be turned against him with telling effect. But there is one thing more important than professional deprivation, and that is mental comfort; and how the writer of this work can, in accordance with its principles, calmly teach Pathology as it was understood he would teach it, when he took possession of his chair, does to us, to use the gentlest possible phrase, appear surprising.

While he announces his preference for homœopathy, the author seems willing to practice allopathically as well as homœopathically; and in some diseases he even prefers the "ordinary" method of treatment. For example, in certain cases of apoplexy he approves of bleeding, upon the ground that the cause of the disease is mechanical; yet he prefers "PHOS." to the lancet in the first stage of pneumonia, although there also he has to contend against sanguineous congestion. On some other points comment might be made; but the failure in placing the general principle of homœopathy on any higher basis than it formerly occupied, must be our apology for dismissing the volume without farther discussion. It exhibits talent misapplied, Professorial dignity lowered, and a popular delusion left as hopelessly in the mud as ever.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

Case of General Emphysema rapidly producing Death by Suffocation, with Pultaceous Softening of the Stomach, and Sub-peritoneal Rupture of that Organ. By Professor Burggraeve.

The following case is one not only of great interest, but, perhaps, as remarked by M. B., *unique* in the history of science. It is true, several cases of general emphysema have been published, but in these the occurrence owed its origin,—or, at least, appeared to owe its origin,—to an accidental communication between the bronchiæ, and some point of the cellular tissue external to the pleuræ, and the mechanism of the subsequent symptoms, generally producing death in the course of two or three days, was easily explained. But so far as we know, no case, up till this period, has been published, where the symptoms owed their origin to the stomach, and the act of deglutition. The rapidity with which death ensued in the case we are about to detail, would seem to indicate that the mechanical cause acts with greater power in these cases, than in those in which the perforation exists in the pulmonary apparatus.

Case. V. H., a surgeon, was suddenly seized with indisposition after dinner. The skin, cold and corrugated, was covered with perspiration; and the pulse compressed, and scarcely perceptible; the voice feeble, respiration anxious, and the belly swollen and tympanitic. An emollient injection was administered, when all of a sudden, after an effort at stool, emphysema appeared, and extended to the region of the neck, where it produced the effects of violent strangulation. The action of the lungs became suspended, and the patient had the appearance of a person labouring under cyanosis; the swelling increased with each inspiration, whilst, in spite of himself, he went through the motions of deglutition. In a short space of time he lost all appearance of a human being; but occasionally a lamentable exclamation indicated that, under his form, there was a suffering fellow-creature. He evidently retained, however, all his presence of mind, and took part in the consultation with the three of his colleagues gathered around him, as to the proper remedies for such a frightful and rapid occurrence; he indicated his repugnance to abdominal paracentesis, to which it was proposed to have recourse, although without any hope of effecting a cure.

He suffered greatly from thirst, and incessantly called for cold water; but the difficulty of swallowing, it was observed, became every instant greater; the movements of deglutition, however, continued with rapidity, and there was a constant gasping at air. He died in the course of a few minutes, after an attempt to swallow a mouthful of water. The suffocation was complete. Inspiratory movements continued for a considerable time, and with each there followed an increase of the emphysema. In a short time the body became blown out, and distended like a cask.

Dissection.—The abdomen, enormously distended, did not fall after the first incision, which penetrated the peritoneal cavity; it contained no gas. A second incision, carried transversely, laid bare the stomach, which, distended by gas, protruded through the opening, and extended from the epigastrium to the iliac fossa. Its muscular coat appeared hypertrophied. On drawing it downwards, the layer of epiploon connecting it to the diaphragm was torn, and then air escaped from a large opening, in the small curvature of the stomach, extending

from the cardiac end to the pylorus. The organ in that region had undergone pultaceous softening, in which both the muscular and mucous coats participated. The latter was strongly injected with blood of a bluish colour, and became gradually thinner towards the diseased spot.

There was no trace of ulceration, or engorgement round the edges of the rupture, and no tendency to adhesion; the serous membrane was entire. The lungs were pushed up against the spine, and the cavities of the heart were filled with dark blood. There was a collection of serum in the pericardium and right pleura; the other viscera were healthy.

We cannot help regretting that the above case has been so imperfectly detailed by M. B. Many particulars, both in regard to its history, and the appearances found on dissection, are wanting; in all cases we are entitled to expect complete details; but more especially in those which, like the present, are of a new and somewhat *unique* character.

In the history of the disease, for instance, we should have been informed of its exact duration, and the different phases it presented, notwithstanding its great rapidity; it would have been important to know if there was vomiting from the commencement, and also the time that elapsed from the period of death to that of dissection.

In the dissection itself there are important blanks. Did the stomach contain any food? if so, we should have been told both its quantity and condition. Was the softening really confined to that part of the stomach comprehended under the name of small curvature,—or had it not rather its seat in the large curvature, where chemical softening, not only of the mucous membrane, but of the three coats of the stomach, is so frequently found, and which exhibits the greatest resemblance to that described by M. B.? Again, did perforation of the stomach exist previously to the rupture of the epiploon, and if so, in what way did the air find its way into all parts of the body? In cases of general emphysema, it is well known that the course of the air through the tissues can be traced, from the remarkable manner in which it dissects those through which it is capable of passing.

If the softening of the coats of the stomach, in this case, was really owing to the chemical action of the gastric juice,—and many circumstances lead us to believe this, as the short space of time that had elapsed from a copious repast, the (probable) presence of food in the organ, the absence of all lesions in the neighbourhood, and more especially the absence of any adhesions to the adjoining peritoneum,—we are then led to seek elsewhere for the origin of the emphysema which occurred during the life of the patient, and previous to any such chemical softening of the stomach, as we have alluded to. In this case we ought, perhaps, first of all, to look for the lesion in the respiratory organs themselves. But a most extraordinary phenomenon was observed during life, and to which M. B. gives great prominence in the case, which renders any hypothesis founded on rupture of the respiratory organs perfectly inexplicable. We allude to those rapid movements of deglutition, and gasping at air, which were so striking, and by means of which a large quantity of air must have penetrated the stomach.

We have thought it right to give expression to the above doubts; they might have been spared, had the details of the case been given in a more complete manner. We now terminate the discussion, by furnishing some further particulars regarding the subject of the case. He was a man who led a very active life, occasionally falling into excess on the score of regimen, and for six months had complained of an affection of the stomach, which he himself believed to be gastralgia. The following is the explanation offered by M. B. as to the cause of sudden death. "A rupture of the stomach," he says, "must have taken place below the peritoneum, producing a vacuum, into which the air was forcibly drawn by the movements of the chest, and thus passed into the general cellular tissue, more particularly along the course of the spine, where that tissue is most lax, and from whence it was propagated to the trunk and extremities. Hence the rapid movements of deglutition observed during life. The thoracic viscera and large vessels must have been the parts first subjected

to the effects of the pressure, and especially to that portion of the column of air passing behind the posterior mediastinum. The pressure must have been very great in the region of the neck, in consequence of the trachea and blood-vessels lying between two aponeuroses. The air was stopped in its progress by the summit of the cranium, none of the openings in which allowed it to escape, and the brain remained intact. The latter was only affected ulteriorly by the progress of the asphyxia."—*Annales et Bulletin de la Société de Médecine de Gand.*, as quoted in *Gazette Médicale*, 14th May 1845.

SURGERY.

On Secondary Syphilis. By Thomas Spence, M.D.

[The following is the continuation of an excellent paper, the first part of which we were only able to publish in our Number for June 1844, p. 531.]

Name.	Date.	Disease.	Treatment.	No. of Days in Hos.	Date of Secondary Disease.	Description of Secondary Disease.	Treatment.	No. of Days in Hospital.
C. W.	Jan. 13, 1833.	Small sore under the prepuce.	Mercury to ptyalism, in the General Hospital.	16	Mar. 30, 1833.	Papular eruption, with pains in the legs; had an attack of jaundice whilst in Hospital.	Sarsaparilla. Mercury to ptyalism for jaundice.	20*a*
J. S.	Oct. 20, 1832.	Mere excoriation, followed by a bubo.	Mercury to ptyalism, in the General Hospital.	30	April 4, 1833.	Pains in the limbs and a papular eruption.	Sarsaparilla, and Fowler's solution.	51*b*
J. C.	June 14, 1832.	Several sores behind the corona glandis.	Poultices, black wash, & aperients.					
.....	Jan. 4. 1833.	A small sore which had healed before admission, but followed by a bubo.	Mercury to ptyalism, in the General Hospital.	90	April 14.	Pains in the limbs and a papular eruption.	Sarsaparilla, arsenic, and aperients.	50*c*
J.F.P.	.....	This man was never under treatment to my knowledge for a primary sore, but has marks of recent ulceration near the frœnum.	Mercury, suspected from the state of the gums.		May 14.	Iritis.	Bleeding, blisters, and mercury, with belladonna externally.	41*d*
H. J.	.....	Not known.	Merc. to ptyalism, by an apothecary.		March.	Pain in the limbs and a papular eruption, sore.	Sarsaparilla, and nitric acid.	90*e*
M. C.	.....	Sore on the penis, at Portsmouth, in General Hospital.	Mercury to ptyalism.			Eruption, the character of which not known.	Mercury to ptyalism at Portsmouth.	
					Jan. 18.	Ulcerated sore throat, deafness, a scabby eruption eventually assuming the character of Rupia.	Bleeding, sarsaparilla, nitric acid, & aperients.	50*f*
G. W.	June 1.	Several sores on the penis behind the corona glandis, and bubo.	Black wash, cold lotions, poultices, &c.					
.....	Dec. 1.	Several ulcers on the glans, copious discharge.	Black wash, caustic, and blue stone.					
.....	June, 1833.	Admitted from detachment with a large bubo in the left groin.	Mercury to ptyalism by a civil practitioner.		Oct. 16, 1833.	Papular eruption.	Sarsaparilla & aperients.	20*g*
J. F.	January 1833.	Not known; occurred when on Det. at Navan.	Mercury to ptyalism.		Sept. 14.	Pain in the limbs and papular eruption.	Nitro-muriatic acid baths, and sarsaparilla.	22*h*
T. B.	.....	Not known.	Mercury to ptyalism.		Aug. 13.	Fever, pains in the limbs, Iritis, enlargement of the testicles, ulcers on the breast.	Mercury, belladonna, sarsaparilla, &c.	13 months.
G. S.	.....	Not known.	Mercury to ptyalism, at Carrick on Suir.		Mar. 30.	Papular eruption.	Baths and sarsaparilla.	20*i*
					June 20.	Iritis.	Mercury and belladonna.	30*j*
J. B.	July.	Not known.	Mercurial ointment, & pills to ptyalism.		August.	Papular eruption, pains in the limbs, swelled testicle, and ulcerated sore throat.	Sarsaparilla, aper'ts, with alteratives after the testicle swelled.	6 months.

General Observations.—*a* Good health since. *b* Good health since. *c* Deserted. *d* Good health since. *e* Discharged the service for a break up of constitution. *f* Health greatly improved—only fit to work in a tailor's shop, and eventually discharged the service. *g* Has had good health since. *h* Good health since. *i* Discharged the service. *j* Died idiotic from disease of the brain. *k* Health since tolerably good.

From these data I feel justified in persevering most strictly to treat ulcers on the genitals without the administration of mercury, and merely beg in conclusion to suggest, that each practitioner, before administering this supposed specific for ulcers on the genitals, should weigh well its probable consequence. Does he thereby hope to prevent an attack of constitutional disease? then I tell him, he will be deceived, for every day's experience goes to prove, that mercury has not this effect, and it was only yesterday a soldier presented himself for admission into a regimental hospital, with "ulcerated sore throat," pains in the limbs, and a "copper-coloured eruption" on the body, who, upon inquiry, I found had, one month previously, taken 17 blue pills, which occasioned ptyalism, for an ulcer on the glans penis; but perhaps the practitioner may be of opinion, that although he cannot prevent secondary disease, yet, by a gentle and cautious mercurial course, he will ensure a more manageable form, when it does appear. In this opinion, it is much to be feared he is not borne out by facts, for in truth, the result is generally quite the reverse, and instances in abundance present themselves like to that of a young officer, in this country, who was treated by a mild course of mercury for an ulcer of the penis, which was some time after followed by inflammation of the testicle, proceeding on to abscess and ulceration, attended with severe rheumatism, and a cachectic state of the constitution; he was sent home, and by means of the iodide of potassium and sea air, he for the time recovered, but on a relapse it was considered by his medical attendants necessary to subject him to another course of mercury. He is dead.

Of all the remedial agents at present available for the state of constitution consequent upon syphilis, I know none to be compared in efficacy with a combination of iodine and quinine, which I have prepared in a variety of forms, but which seems best, when about 20 grains of quina (procured by decomposing the disulphate with ammonia) is combined with about 15 grains of iodine, each having been previously dissolved in rectified spirit; a few drops of the yellow solution, containing about a grain of the salt, may be given once or twice a-day in a glass of sherry or port wine, the salt being very insoluble in water. For want of chemical knowledge, I have experienced much difficulty in preparing this medicine, and this deficiency prevents my describing more scientifically the combinations which have been met with. At first I took equal parts of sulphate of quinine and iodide of potassium, dissolved in a little water in separate vessels, with as much sulphuric acid as was sufficient to hold the sulphate of quina in solution; on mixing them together, a yellow substance was procured, insoluble in water, but easily dissolved in spirits, which, on being added, threw down the sulphate of potassa, easily got rid of by the filter; on evaporating the yellow solution, long and beautiful crystals were obtained, which, I am led to believe, is an iodide of quinine, the iodine being evidently in combination with the quina, as evidenced by its not showing the characteristic colour in the cold solution of starch, until sulphuric acid be added, but, sometimes, I have from this yellow solution obtained an emerald-coloured deposit of a glistening lustre, containing both iodine and quinine, but in what proportion I do not know, though I believe it to be a bin-iodide, because it has been only got when the iodide of potassium was added in excess.—*Montreal Medical Gazette*, April 1844.

CHEMISTRY AND MATERIA MEDICA.

Creasote. By M. Deville.[1]

According to the author, the following rule may be applied to several of the resins, viz., that on their destructive distillation they yield the same oil (to at

[1] We gave notice of these researches in our No. for October last, p. 903.

least one isomeric) as that from which they originated. The body formed on the distillation of guaiacum resin, $C^{14}\ H^{16}\ O^4$, called by the author hydruret of guaiacyle, resembles in every respect creasote ($C^{14}\ H^{16}\ O^2$), and may be considered as its oxide. Creasote colours salts of iron blue, guaiacum oil brown; both give with bromine crystalline compounds in which substitution occurs. Creasote may be regarded as the alcohol of the benzoyle series; both yield, when treated with sulphuric acid and chromate of potash, a peculiar salt of chrome; neither of them becomes coloured by exposure to the air if in the *pure* state. Creasote would therefore range in the class of essential oils which are regenerated by distillation; and this would explain why it is not obtained from all woods, and likewise, why it appears to have a different composition according to its origin.—*Ann. der Chim. et der Phys.*, xii. p. 228; and *Chemical Gazette*, Feb. 15, 1845.

The Chemical Relations of Creasote. By Professor Gregory.

The author, struck with the singular resemblance between the properties of creasote and carbolic acid, as described in all chemical works, tried the action of a mixture of chlorate of potash and hydrochloric acid on creasote, and thus obtained a very large proportion of chloranile, the compound yielded by carbolic acid, when treated in the same way. He also obtained, by the action of nitric acid on creasote, evidence of the production of nitropicric acid, which is also obtained from carbolic acid.

If these two compounds be not identical, they are at least very closely connected, and in all probability contain the same radical. It is possible that creasote may be a definite compound of carbolic acid with some allied body. At all events, it is very remarkable, that these two compounds, described as different, should agree in density, taste, smell, antiseptic property, power of combining with bases, power of dissolving resins, indigo, &c., and finally in composition; although probably perfectly pure creasote has not yet been analysed.

The author mentioned these results very briefly, having discovered, just before the meeting, that he had been anticipated in his experiments on creasote, by M. Laurent, who had obtained the same results, and drawn very nearly the same conclusions, in a very recent paper, and who was therefore entitled to priority in the matter.—*Proceedings of Royal Society of Edinburgh, No.* 26.

Constitution of Bebeerine. By Douglas Maclagan, M.D., F.R.S.E., and Thomas G. Tilley, Esq., Birmingham.

As bebeerine does not crystallize, and is coloured, its purity could only be ascertained by analysis. The authors describe a new method of purification, in which oxide of lead is employed to separate tannin, &c.

The mean results of the analysis performed, were as follows:—

Carbon,	71·92
Hydrogen,	6·49
Nitrogen,	4·75
Oxygen,	16·84
	100·00

The mean atomic weight, as deduced from the analysis of the double salt of hydrochlorate of bebeerine, with bichloride of platinum, is 3756·77 (oxygen =100), and making this the groundwork of the calculation, the authors were led to the formula $C_{35}\ H_{40}\ N_2\ O_6$ for bebeerine, which gives the atomic weight 3681·38.

It is remarkable that this formula is the same as that generally admitted for morphia, and not, as might be expected from the action of bebeerine, allied to those of quinine and cinchonine. The mode of the arrangement of the atoms is no doubt, different in morphine and in bebeerine, notwithstanding the appa-

rent identity of proportions. In fact, the difference of physical properties proves a difference in the grouping of the atoms.

The authors were not able to obtain sipeerine, the substance which accompanies bebeerine, in sufficient quantity for analysis. It appears to be also an alkaloid.—*Proceedings of Royal Society of Edinburgh, No.* 26.

PART FOURTH.

MEDICAL NEWS.

VARIETIES.

The Medical Times, and Dr C. J. B. Williams' Lectures.—Dr Williams has published the following letter in the *Medical Gazette*.—"*To the Editor, &c.*.—Sir, as I find that many persons are under the impression that the Reports of my Lectures on the Practice of Medicine, which have for some time past appeared in the *Medical Times*, are authorized by me, I think it due to myself, to declare publicly, that they are not. I believe, that the Reports were taken by a short-hand writer unacquainted with medicine and medical terms, and if they have been corrected at all, it has not been by myself, nor (except some of the early Lectures,) so far as I know, by any of my pupils. I trust that this statement will account for numerous errors and omissions, which in many parts of these Reports, so entirely destroy and pervert the sense, that it is not fair that I should be supposed responsible for them. I am, Sir, your obedient Servant, C. J. B. Williams.—7 Holles Street, Cavendish Square, 12th July, 1845."

College of Chemistry, London.—This Institution will be opened as a practical School of Chemistry, in October. Premises have been taken for this purpose in Hanover Square.

St Mary's Hospital, London.—The first stone of this projected Institution was laid by H. R. H. Prince Albert, on Saturday, the 28th June. The amount of the subscriptions already collected amounts to between L.17,000 and L.18,000.

College of Surgeons of England.—On Thursday, July 10, Mr Samuel Cooper was elected President, and Messrs Lawrence and Travers, Vice-Presidents, for the ensuing year.

Successor to Breschet in the Academie des Sciences.—M. Lallemand has been elected a Member of the Académie des Sciences, in the section of Medicine and Surgery, in the room of M. Breschet, deceased. The unsuccessful candidates were MM. Gerdy, Bourgéry, Bérard, Jobert (de Lamballe,) and Blandin.

Dr Jul. Schlossberger, Assistant Teacher in Dr Gregory's Laboratory of Research, has just been appointed one of the Professors of Chemistry, in the University of Tubingen, Wurtemberg.

Medical Practitioners of the West of Scotland.—The Faculty of Physicians and Surgeons of Glasgow have resolved to open a Register for inserting the Names and Designations of all the Licensed Practitioners of Surgery and Pharmacy practising within the Counties of Lanark, Ayr, Renfrew, and Dumbarton, containing the following particulars, viz.:—*Name, Designation, and where at present Practising, Date of License, and from what College obtained*, addressed, *free*, "to the Faculty of Physicians and Surgeons, 17 St Enoch Square, Glasgow."

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NO. LIX.—NOVEMBER 1845.

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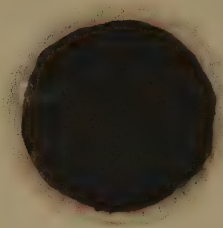
Fig. 1.



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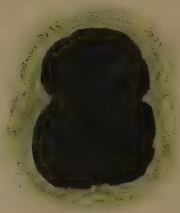

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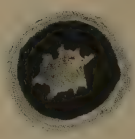


EFFECTS OF POSTFEBRILE OPHTHALMITIS ON THE TRANSPARENT PARTS OF THE EYE. MAGNIFIED.

A.A. Del.t

Geo. Newman sc

THE

LONDON AND EDINBURGH

MONTHLY JOURNAL

OF

Medical Science.

No. LIX.] NOVEMBER. [No. XI. OF 1845.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On Development of the Placenta within the Fallopian Tube. By* J. M. PAGAN, M.D., *Professor of Midwifery in the University of Glasgow.*

IT is not my intention to enter at any length into the subject of the development of the ovum in preternatural situations,—I shall simply observe, that it is well known to all, that the ovum may be arrested in its descent through the Fallopian tube, and may be developed there, to a more or less advanced stage. Cases are recorded where the infant has been developed in the tube, and the uterus expanded by the liquor amnii contained within the membranes attached to the uterus. In one such case, the child's head was presenting into the cavity of the uterus, and the remainder of the body was in the tube; and in another, a lower extremity presented into the uterus, and a living child was extracted, from the tube, through the uterus. There are two cases recorded, where, without any recent solution of continuity, the infant was found in the cavity of the peritoneum; the umbilical cord passing from the belly of the infant through the tube for a short distance, was inserted into the placenta, the only part of the ovum which was in the uterus. These cases are mentioned on the authority of Carus and Hoffmeister. In these cases the infant alone had been developed originally within the tube, which had given way at an early period of gestation, and the women had lived till the full period. In both cases the Cæsarean operation was performed; in the one before, in the other subsequent to death. In the case recorded by Carus, the woman died of hemorrhage in consequence of separation of the placenta, under uterine action; and the infant, which was not putrid, was fully

developed, and the mother had been conscious of its motions shortly before her death, which led to an attempt to save its life by the Cæsarean operation. It would seem that not only the whole, but any part of the ovum, may be developed in the Fallopian tube. The subject of tubal pregnancy is one of very great practical importance. Ritgen has succeeded in one case in inducing the premature expulsion of the ovum from the tube; and, when we reflect upon the usual issue of these cases, we are fully warranted in attempting to put a stop to the farther development of the ovum, or to procure its early expulsion.

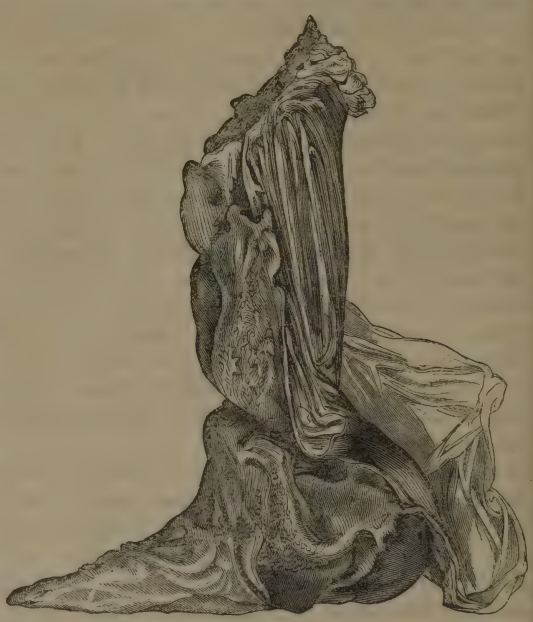
The object of the present paper is to direct attention to the development of the placenta, either partially or entirely within the tube. This subject has not hitherto received much illustration from accoucheurs; it is left altogether unnoticed in our systematic works on midwifery; and I believe, though I have not entered into any extensive research, that Riecke and D'Outrepont are the only writers who have directed the attention of the profession to this subject as one of practical importance, giving rise, as they believe, to abortion in the early periods of gestation, and to retention of the placenta in the last stage of labour, frequently mistaken for one or other of the varieties of irregular uterine contraction. Whether the development of the whole, or a part of the placenta within the Fallopian tube, be a frequent occurrence, giving rise to abortion in the first place, and to retention of the placenta in the second, may be questioned; yet, that it does occur occasionally, is beyond doubt. It is impossible, I think, to admit that all the cases mentioned by Riecke and D'Outrepont were really instances of this; the evidence, at least, is defective, though many of them undoubtedly were so. I have nothing to say as to this abnormal situation of the placenta as a cause of abortion, as asserted by those writers, though I do not doubt the fact; and I shall confine my observations to the development of the placenta within the tube, as a cause of retention of the after-birth.

Our knowledge of the respective structures of the placenta and Fallopian tube sufficiently explains how the occurrence should take place. The placental vessels shoot into the uterine extremity of the tube, the tube is susceptible of expansion, the placenta is developed just as within the uterus, the respective circulations are maintained through the usual channels, and when the infant has been expelled, the contraction of the circular fibres at the uterine extremity of the tube sufficiently accounts for its incarceration; and of course it may be retained by morbid adhesions. Some remarks have been made by D'Outrepont upon the diagnosis of this situation of the placenta, before or during labour. I think it would not be safe to hazard a very positive diagnosis upon the grounds which he mentions. He chiefly insists upon the inequality of the uterine surface as ascertained by external examination, and states, that this inequality, as if the uterus were divided by a partition, which was formerly thought to indicate

the presence of twins, and more recently, was ascribed to the unequal expansion of the uterus, is mainly owing to this situation of the placenta within the Fallopian tube; that the inequality of the uterus continues, even though considerably contracted, after the expulsion of the infant, and is only removed by the separation of the placenta, and its expulsion into the cavity of the uterus, or into the vagina. But there are many causes of inequality of the uterus, as ascertained by examination through the abdominal parietes, which are referable neither to the presence of twins, nor to the unequal expansion of the uterus, nor the development of the placenta within the tube. I have nothing to offer in reference to the diagnosis of the placenta within the tube before or during labour, except that I should hope to derive some assistance from auscultation, if I discovered a well-defined tumour of the uterus in the situation of the uterine extremity of either tube. The discovery of this cause of retention of the placenta after the birth of the child, is the most important point, because if not detected, and treated in the proper manner, it may give rise to hemorrhage, and to the fatal result which frequently ensues upon the retention of a portion of the after-birth; and this cause may be suspected, if the uterus be pretty equally contracted, assuming nearly its natural figure, with the exception of a well-defined soft tumour in the situation of the uterine extremity of either tube. It is true you may have a tumour within the walls of the uterus itself, which in some cases I have known to increase with the enlargement of the uterus during gestation, and gradually to diminish, probably to the size which it had attained before pregnancy ensued. Yet I think the two conditions may be distinguished. It is, however, unnecessary to enter into this point, because it is obvious that if the development of the placenta within the tube should occasion hemorrhage, or prove a cause of retention, it would lead to the usual practice in such cases, and to the discovery of the cause. It is not certain that the placenta may not be wholly, or partially developed in the Fallopian tube, though we do not discover it, because the muscularity of the tube increases with its expansion; and unless there should be preternatural adhesion, or irregular contraction, particularly of its sphincter fibres, the tube itself is capable of separating the placenta from its attachment, and expelling it by its contractility into the cavity of the uterus.

I shall shortly detail the particulars of the only case which has occurred to me, where I was certain that a portion of the placenta was developed within the tube, and where it gave rise to retention, and secondary hemorrhage. About thirteen months ago, I had occasion to see a woman forty-one hours after delivery of her third child, by a natural and easy labour. I visited the patient on account of considerable loss of blood which had been taking place since the birth of the child. Upon examining the abdomen, I found the uterus considerably expanded, and presenting that peculiar

doughy feeling which is characteristic of the presence of coagula of blood within its cavity, when there is no contractility and but little contraction. In the situation of the left Fallopian tube there was a well-defined soft tumour, springing immediately from the uterine walls, nearly as large as an infant's head at birth, and easily detected through the tall, attenuated abdominal parietes. I was told that the placenta had been removed with difficulty. It immediately occurred to me that this was a case where a portion of the placenta had been left in the tube; and after vainly endeavouring to exert contraction of the tumour and uterus together, I introduced my hand through the clots of blood with which the vagina and uterus were filled, till I came in contact with a portion of the placenta adhering pretty firmly to the side of the uterus, near the margin of the expanded Fallopian tube to which the remainder of the placenta was likewise morbidly adherent. I separated the placenta from the orifice of the tube all round, and withdrew the whole, which presented a considerable prolongation, which is well illustrated, in the accompanying woodcut, taken from a most accurate drawing of the recent preparation. Immediately after the withdrawal of my hand, with the portion of the placenta which had been retained, and the clots of blood with which the uterus was filled, the uterus contracted well and equally; the defined tumour all but completely disappeared, there was no return of hemorrhage, and the woman's recovery was uninterrupted. It is generally unsafe to place much reliance upon the statements of patients themselves, as to particular swellings, which they say they have been conscious of in the abdomen during pregnancy; but this woman assured me, she had been sensible of a large tumour, for a considerable time before her labour, in the situation of the left Fallopian tube. It is not improbable that the development of a cotyledon of the placenta within the tube, prolonged to its free extremity, may account for those cases where blood in considerable quantity



has been effused into the cavity of the abdomen, and where no other source, except the uterus could be conjectured, from which the blood could have proceeded; at all events where there was neither rupture of vessels, nor solution of continuity. It is not probable that blood in considerable quantity would make its way along the Fallopian tube, unless its calibre were preternaturally enlarged.

Through the politeness of Mr J. Bell of this city, I am enabled to enrich my paper with the particulars of the following most interesting case; in which a post-mortem examination proved that a portion of the placenta had been developed within the Fallopian tube, the retention of which occasioned the fatal result. I give the case in Mr Bell's own words:—

"The case, of which the following account is a summary, occurred in the practice of my late partner, Mr Hunter, January 3, 1838. Mrs M'D., after a tedious labour, gave birth to a male child. About an hour afterwards, considerable hemorrhage took place, and though cold in the usual modes was assiduously applied, yet the flooding increased. Mr H. determined to remove the placenta, and was in the act of introducing his hand for that purpose, when the woman fainted. The relatives becoming alarmed, I was sent for. I found the patient pale and much exhausted, the loss of blood somewhat diminished, and the placenta still in the uterus, which felt large and soft. The immediate extraction of the placenta was resolved on. Its removal was effected with considerable difficulty, in consequence of its adhering firmly to the uterus. After its separation, the uterus contracted, and the hemorrhage ceased. The placenta was much lacerated, and extensively indurated on its uterine surface.

"During the night, several clots were discharged from the vagina, and slight hemorrhage returned, but it was suspended by the application of cold to the nates and vulva.

"On the 4th and 5th, the patient had no complaint but debility. On the morning of the 6th, she had a rigor, which was followed by severe pain in the lower part of the abdomen, and other symptoms of peritonitis. Mercury was employed both internally and externally, along with rubifacients, &c., but without advantage. She sunk and died on the 10th, the seventh day after delivery.

"*Dissection thirty-six hours after death.*—The abdominal cavity contained about two pounds of serous fluid, mixed with small pieces of soft lymph. The peritoneum of the parietes of the lower part of the abdomen, and of the intestines, was reddened or congested at several points; the peritoneal covering of the uterus was very much congested, presenting several patches of a deep crimson hue, and surrounded by layers of soft lymph; the cellular tissue was filled with a thin yellowish purulent-looking fluid. On making a section of the uterus, we found in its cavity about an ounce of dark-coloured fluid, of an offensive odour; the mucous membrane was of a dark

colour, and very soft. Near the fundus uteri, towards the right side, a blackish substance, about the size of a large plum, was observed;—it was found to be a portion of the placenta adhering firmly to the uterus. Whilst removing it, we discovered that it penetrated the Fallopian tube, on opening which we found a portion of placenta measuring $3\frac{1}{4}$ inches in length, and adhering to the tube round its margin as it entered the uterus, at which place it was fully three inches in circumference, but gradually tapered into a point as it approached the other extremity of the tube.

"A medical gentleman (since deceased) who was present at the inspection, for some time insisted that Mr Hunter, in separating the placenta, had used too much violence, and had pushed a portion of it into the Fallopian tube.

"Besides many other obvious reasons, the adhesions which existed between the parts were sufficient to disprove any such opinion; indeed, our friend was obliged (though very reluctantly) to acknowledge his error."

ARTICLE II.—*Black Phthisis, or Ulceration induced by Carbonaceous Accumulation in the Lungs of Coal-Miners. By* ARCHIBALD MAKELLAR, M.D., *Fellow of the Royal College of Physicians of Edinburgh.*

(*Continued from p. 653 of September number.*)

IN the September number of this Journal there was given a short account of the cause and progress of the "Black Phthisis" incident to coal-miners. From a variety of cases to which my attention was directed, I have selected *ten*, with the *post-mortem* appearances in nine of them. These cases extend over a period of eleven years, all of them exhibiting, with some slight variation, the same character of disease, and proceeding from the same cause—inhalation of carbonaceous matter. Some of the cases occurred as far back as the years 1833–34, while the last case came under my notice within these twelve months. Of the ten patients, six were engaged at one period with stone mining, and four were entirely coal-miners; eight expectorated carbonaceous matter, and two did not show any indication of black infiltration from the sputum; six exhibited most extensive excavations of the pulmonary structure; and only three general impaction of these tissues, with numerous small cysts containing black fluid; the tenth, I regret to say, was not examined, owing to neglect in communicating in time the death of the patient, which took place a few weeks ago. These morbid appearances exhibit three stages of the disease. The first is that where the carbon is confined to the interlobular cellular tissue, and minute air-cells, producing cough, dyspnœa, slight palpitation of the heart, and acceleration of pulse, while, at the same time, the patient continues able to prosecute his daily em-

ployment. The respiratory sounds, in this state of the chest, are loud and distinct. Such a condition of the pulmonary structure is often found on examination in the Carron *iron-moulder*, who has been killed by accident, or has died from some other disease, having been subjected in the course of his employment to the inhalation of carbonaceous particles.

The second is that stage where the softening has commenced, the several impacted pulmonary lobular-formed small cysts throughout the substance of one or more lobes, the contents of which may either be expectorated or remain encysted, giving rise to most harassing cough, laborious breathing, and palpitations,dull resonance of chest, and obscure respiratory murmur. The third and last stage, is that in which the several cysts in one or more lobes have approximated each other, forming extensive excavations, the prominent symptoms of the disease becoming considerably aggravated, and the powers of the system sinking to the lowest degree of exhaustion.

Case 1. George Davidson, collier from his youth. When I first saw him professionally, in May 1834, he was aged thirty-two. From his earliest years he was employed about the coal-works in Pencaitland parish, and when very young, he went down the pit to assist in conveying coals to the shaft, and ultimately became a coal-miner. For a considerable length of time, he enjoyed good health, having neither cough, nor any other affection. He was well-formed, and robust in constitution. A few months previous to my seeing him, he had taken to the employment of stone-mining in the pit at Hamilton, where he was accustomed to labour, and soon after being so engaged, he began to complain of uneasiness in the chest, and troublesome short cough, quick pulse, especially at night and in the morning, for which he sought medical advice, and was treated for bronchial affection. He continued to prosecute the employment of stone-mining in this coal-pit so long as his strength would permit, which was a little more than two years, when (August 1836) he was entirely disabled, from general exhaustion. By this time his cough had much increased, and there was considerable dyspnœa, accompanied with sharp pain in the thoracic region, both in walking quickly, and when lying down. Pulse 80. He expectorated bloody tough mucus without any tinge of black matter. All remedial means were adopted with a view to the removal of the irritation of the chest, without producing any very decided effect. The thoracic pain was occasionally subdued, but the cough became incessant; loss of appetite, rapid emaciation, and cold nocturnal sweats, with slow weak pulse, supervened. After a severe fit of coughing, during one of his bad nights, the black expectoration made its appearance, in considerable quantity, by which his sufferings were for a few days alleviated, when the cough returned in the same degree of severity, and

was again mitigated by the black sputa, which was expectorated without difficulty, and from this time (October 1836) there was no interruption to a free carbonaceous expectoration.

In the early part of this man's illness, the stomach, the alimentary canal, biliary and urinary secretions, continued unimpaired; but as the cough advanced, gastric irritation, which was followed by vomiting during the paroxysms, annoyed him; and for the last eight months of his life, he suffered occasionally from severe attacks of gastrodynia, which, when present, had the effect of considerably modifying the thoracic irritation, and allaying the cough. There was nothing very remarkable in the character of the urine; the quantity voided was small, and very high coloured, with occasionally a lithic deposit. The fæces were natural, and smeared with dark blue mucus. On examining the chest with the stethoscope, the crepitant ronchus was heard in the upper part of each lung. There was general dulness throughout the lower part of both, with the exception of a small space at the inferior angle of the left scapula, where pectoriloquy was distinctly heard, from which was concluded the cavernous state of a portion of that lung. The heart's action was languid, and often intermitting, producing vertigo and occasional syncope. The pulse was gradually becoming slower; and at this time, (Nov. 1836,) it was *forty-three* in the minute. I was informed by this man, that his chest affection first became manifest, after being engaged with a difficult job in a newly formed coal-pit at Huntlaw, where he had very little room to conduct his mining operations, which were carried on with the help of gunpowder, and where he experienced a sensation of suffocation from the confined nature of the pit,[1] which did not permit of the exit of the evolved carbon, and ever after, his cough and difficulty of breathing had been increasing rapidly. During the greater part of the period he was under my charge, he continued to expectorate black matter, of the consistency of treacle, mixed with mucus in considerable quantity, and I would suppose, taking the average of each week, that he expectorated from ten to twelve ounces daily of thick treacle-like matter. I had the curiosity, during my attendance on this patient, to separate the mucus from the carbon, by the simple process of diluting the sputa with water, and thereafter separating and drying the precipitated carbon. I was enabled by this means to procure about one and a-half drachms of a beautiful black powder daily, and in the course of a week, I had collected near to two

[1] Note from the evidence of a collier examined before the Government Commissioners in 1842, No. 147 of Report. "Colliers in this part of the country are subject to many oppressions; first, Black spit, which attacks the men as soon as they get the length of 30 years of age;" second, Note 150, "The want of proper ventilation in the pit is the chief cause, and no part requires more looking after than East Lothian," the men die off like rotten sheep. Note, 153, the witness, 32 years old, says, "I am unable to labour much now, as I am fashed with bad breathing—the air below is very bad, and till lately no ventilation existed."

ounces of the substance. This process I continued for some weeks, till such time as I had procured a sufficient stock of this remarkable product of the pulmonary structure, and I am certain that the same quantity, if not more, could have been obtained till his death, in Dec. 1836. It is undoubtedly a striking phenomenon, connected with the pathology of the chest, that the human lung can be converted into a manufactory of lamp black!

Towards the close of this poor man's existence, the countenance and surface of the body assumed a leaden hue, from the very general venous congestion, and as his system became more exhausted, and he was about to sink in death, the gastric irritation and nocturnal cold sweats which had been long present with him considerably increased, along with a cough so severe as actually to produce vomiting of the black sputa. His tongue and fauces became so coated with the expectoration, that a stranger viewing the patient would have said that he was vomiting black paint.[1]

This case resembled in many of its features, one of tubercular phthisis, more than is generally found in the disease before us, there being cough and expectoration, dyspnœa, sharp pain in the thoracic region, colliquative sweats,[2] and great emaciation, while at the same time, the pulse was slow and weak, not exceeding thirty-six in the minute for a week before death. No hectic heat of skin, but an extraordinary depression of the arterial action, arising evidently from the redundancy of carbon deposited in the pulmonary tissue, preventing the proper oxygenation of the blood circulating in the organs, and thereby producing a morbid effect on the whole system, which sufficiently explains the cachectic condition of the body.

Post-mortem examination, twenty-four hours after death.—In removing the anterior part of the thorax, the lungs appeared full and dilated, and of a very dark colour. Both lungs were strongly attached to the pleura costalis, and a very considerable effusion of straw-coloured fluid was found in both cavities of the chest. A few irregularly situated dark glandular bodies were observed on the surface of the costal pleura at each side of the sternum, and on the mediastinum. The lungs were removed with difficulty on account of the strongly adhesive bands attaching them to the ribs, and in handling them they conveyed the impression of partial solidity:—several projecting, irregular firm bodies, were felt immediately beneath the surface of the pleura, and there was also present emphysematous inflation of the margins of the upper lobes. In transecting the upper lobe of the left lung, it was found considerably hollowed out, (to the degree of holding a large orange,) and containing a small quantity of semi-fluid carbon, resembling thick blacking, with the superior divisions of the left bronchus opening

[1] The black sputum retains its colour after being submitted for some days to the action of nitric acid.

[2] This is the only case in which I at any time observed colliquative sweats as a symptom of this disease.

abruptly into it. Many large blood-vessels crossed from one side of the cavity to the other, to which shreds of parenchymatous substance were attached. The inferior lobe was fully saturated with the thick black fluid, and it felt solid under the knife, and several small cysts containing the carbon in a more fluid state were dispersed throughout its substance, in which minute bronchial branches terminated, and by which this fluid was conveyed to the upper lobe, and thence to the trachea. In examining the right lung, the upper, and part of the middle lobe were pervious to air, and carried on, though defectively, the function of respiration, while the interlobular cellular tissue contained the infiltrated carbon. The inferior portion of the middle and almost the whole of the under lobe were densely impacted, so that on a small portion being detached, it sank in water. Both lungs represented, in fact, a mass of moist soot, and how almost any blood could be brought under the influence of the oxygen, and the vital principle be so long maintained in a state of such disorganization, is a question of difficult solution.

In tracing the various divisions of the bronchi, particularly in the inferior lobes, some of the considerable branches were found completely plugged up with solid carbon; and in prosecuting the investigation still farther, with the aid of a powerful magnifier, the smaller twigs, with the more minute structure of cells, were ascertained to contain the same substance, forming the most perfect *racemes*, some of them extending to the surface of the lung, and to be felt through the pleura. The lining membrane of the permeable bronchial ramifications, when washed and freed from the black matter, exposed an irritated and softened mucous surface, which was easily torn from the cartilaginous laminæ. The interior of the trachea and its divisions gave evidence of chronic inflammatory action of long standing which extended from about midway between the thyroid cartilage and bifurcation to the root of the lungs. A considerable number of lymphatic glands, filled with—to all appearance —the carbon, were situated along the sides, and particularly at the back part of the trachea; which, from their size, must have interfered by pressure both with respiration and expectoration. The mucous membrane of the left bronchus in particular was much swollen and partially ulcerated towards the root of the lung. In examining the heart after its removal from the body, it was found peculiarly large and flabby, its cavities considerably distended, especially the right auricle and ventricle, while the valvular structure seemed natural. The pericardium contained about 10 ounces of straw-coloured fluid. After examining the organ particularly, I could discover nothing abnormal, but the enlarged and softened state alluded to. The liver was large and highly congested with dark thick blood, but otherwise it was healthy. The gall-bladder was empty, and the spleen large and congested. The stomach was smallish and empty. The mucous membrane was smeared with a blackish, tenacious fluid,

which, upon removal, appeared to be a portion of the expectoration. The structure, as far as could be ascertained, was healthy. The small and great intestines contained fluid carbon (evidently swallowed), while no disease was manifest. The mesenteric glands were small and rather firm, but they contained no black matter; the mesentery was much congested with dark venous blood. The kidneys were apparently healthy, though soft. The bladder was small and contracted. The head was not examined, as I expected nothing but general congestion of the vessels.

This case comes under the third division of the disease, where the lungs were cavernous, and where there was free expectoration of carbon.

Case 2. The following case is one of unsuspected carbonaceous accumulation in the lungs, the history of which proves the fact, that the disease, when once established in the pulmonary structure, continues to advance till it effects the destruction of the organs, although the patient has not been engaged in any mining operations for many years previous to his death.

Robert Reid, aged forty-six at his death, had been a collier since his boyhood. He was a short, stout-made man, of very healthy constitution, and never knew what it was to have a cough. He spent the early part of his life at a coal-mine, near Glasgow (Airdrie), where he all along enjoyed good health. In 1829, he removed from Airdrie to the coal-work at Preston-Hall, Mid-Lothian, where he engaged in mining operations; and, from the time he made this change, he dated the affection of which he died, at the end of 1836. Two months after he removed to Preston-Hall colliery, he was seized with bronchial affection, giving rise to a tickling cough in the morning and when going to bed, accompanied by dyspnœa, with a quick pulse (90), and palpitation of the heart. In the first stage of the affection, he had no expectoration of consequence; but soon after, a little tough mucus was coughed up, and when it was difficult to expectorate, the sputum was occasionally tinged with blood. At this period, the appetite continued to be good, and the strength little impaired. During the day, he felt in his usual health; and, therefore, he continued in full employment. At the end of the four months (Jan. 1830), his cough had increased much, his palpitation of heart, dyspnœa, and bronchial irritation had become very oppressive, and general exhaustion had manifested itself. Recourse was had at this period of the affection to bleeding, blisters, and expectorants, which relieved him only temporarily, and while under this treatment, he—having a large family dependent on his exertions for their support—continued to struggle on at his daily vocation so long as he was able to handle the pick-axe. At the close of 1832, which completed three years of labour in this coal-mine, he was obliged to discontinue all work, and take refuge in medical treatment, with a severe cough, palpitation, annoying dyspnœa, small intermitting

pulse, and sleepless nights. On inquiring as to his general habits and mode of life, I found that he had been all along a sober, regular-living man, that he never complained of ill health till he engaged in this coal-mine at Preston-Hall, where the work was difficult and the pit confined, he having only twenty-four inches of coal seam, which obliged him to labour lying on his side or back.[1] He was also at this time occasionally engaged as a stone-miner, and was consequently subjected not only to the inhalation of the smoke of linseed oil, but to that of gunpowder. For his chest complaint at this stage, he underwent a variety of medical treatment, which produced mere palliation in his symptoms, and though breathing a pure atmosphere in a country situation, he experienced a most painful sensation of want of air, or, as he himself expressed it, "a feeling as if he did not get enough down." By this time the countenance had become livid, the lips and eyelids dark and congested. After undergoing medical treatment in the country, without much relief, he was removed to the Edinburgh Infirmary, in July 1833, in the hope of deriving benefit; but after being a patient in that hospital for some weeks, he returned home much worse. In addition to the aggravation of his other symptoms, there were present œdematous swelling of the extremities, which were generally cold and benumbed, gnawing pain in the right hypochondriac region, and almost total loss of appetite. On examining the right hypochondrium, which he described as swollen, there was evident indication of an enlarged liver, and he complained much of shooting pain in that region during a paroxysm of cough. Hitherto the functions of the stomach and bowels had remained unimpaired; but at this period, (September 1833,) the former became irritated, and the latter obstructed. Tonics and gentle purgatives were administered, and continued for a considerable time. The urinary secretion was all along scanty and high coloured; but, as the disease advanced, the quantity became exceedingly small, (almost none was voided for days together,) for which he was taking diuretics; and on examining it with the application of heat, I repeatedly found it coagulable. General anasarca was now rapidly increasing; and as the cellular effusion advanced, the breathing became more laborious. I understand, that at the commencement of this person's affection, the pulse was frequent, with some heat of skin at night, but from the time he became my patient, there was a tendency to languor in the circulation, and the *beat* at the wrist, for some months previous to his death, was almost imperceptible. With a view to remove the en-

[1] To convey an impression of the nature of the labour in which the man was engaged, I shall simply extract a few remarks from the evidence of the miners at this coal-work, taken by Mr Franks for the Government's Commissioners, Note 105. "At all times the air is foul, and the lamps never burn bright. The seam of coal is 24 inches, and the road only three feet high." Note 108—"Experienced colliers do not like the work, and many are touched in the breath." And in such a situation man is doomed to labour!

largement of the liver, a slight mercurial course was proposed; but owing to debility, indicated at its commencement, it was discontinued, and no effect produced on the organ. All medical treatment having been given up, except mere palliatives, such as blisters and expectorants, this poor man lingered out a most miserable existence from his pectoral symptoms, and particularly from palpitation of heart. Expectoration continued the same, of tough, ropy mucus, small in quantity, and got up with difficulty from the air-passages. In repeated examinations with the stethoscope, there was considerable dulness over the whole thoracic region, no bruit whatever could be discovered in the left side of the chest, no cavernous indication, although that side of the thorax was fully developed. The mucous râle was heard very strong in the upper lobe of the right lung, and some little crepitation at the inferior angle of the scapula on the same side. The action of the heart under the stethoscope gave rather an uncertain indication as to the state of that organ, for though the sound was evidently communicated to the ear, as being transmitted through a fluid, and not the heart striking the ribs, still, from the very general dulness in the left side of the chest, it was exceedingly difficult to decide whether this obscurity arose from effusion into the pericardium, or from effusion into the cavity of the chest. There was one remarkable symptom manifested in this case,—that though the heart's action was to the observer feeble, the patient's sensations were as if the pulsation was very strong, and painfully difficult to bear, and this peculiar feeling to a great extent prevented him from sleeping. I cannot record this case without the painful recollection of this poor man's sufferings. For six months previous to his death, the dyspnœa and palpitation attendant upon his disease were of such a severe character, as to prevent him at any time lying down; and his sensations would not even permit his maintaining the sitting position, for he found it necessary to get upon his hands and knees, as the only posture affording any alleviation to his uneasiness. This peculiarity in the cardiac action was such, that, as he expressed it, "he lived in continual dread of death," and this being ever present to his mind, he was for weeks known almost never to close his eyes. He died exhausted, in November 1836; and there being doubts entertained regarding some of the symptoms of his disease, he requested that his body should be examined, which was done twenty-six hours after his death.

Post-mortem Examination.—The general anasarca gave the body a bulky appearance. On raising the sternum, the ribs seemed very firm and unyielding. The lungs were of a dark blue colour, and seemed at first appearance to fill completely both sides of the chest. Towards the sternal end of the ribs, on the left side, three or four of the substernal or mammary glands were found enlarged and filled with black fluid. The pleura pulmonalis had (where there were no adhesions) interspersed over it patches of false exudation, of a dark brown colour. The lungs adhered extensively to the

pleura costalis, and from the character of the adhesions, they were evidently of some years' standing. In both sides of the chest there was effusion to a considerable extent of a dark-coloured fluid, resembling porter in appearance. On removing the left lung, which was difficult, from the strong adhesive bands, it seemed, from its weight and softness, to contain a fluid; and on making a longitudinal section of both lobes, a large quantity of thick, black matter, similar to black paint, gushed from the opening, exposing an almost excavated interior of both lobes. The carbonaceous matter contained was in quantity about an English pint, and the lung, when emptied, became quite flaccid, and very light. The air-cells of this lung were entirely destroyed, or nearly so, and one of the divisions of the left bronchus opened abruptly into the cavity at the upper part. Both lobes were so completely adherent to each other, from inflammatory action, as to form a continuous sac, containing the above fluid. On examining the internal structure of the cavity, the parenchymatous substance which formed its walls presented a rugged and irregular appearance, resembling a sponge hollowed out, and infiltrated with black paint.

At different points, the large pulmonary blood-vessels crossed the cavity in the form of cords, with portions of structure attached, and though these fragments had a black appearance, they exhibited, to a considerable extent, their original cellular structure when washed in water. The process of carbonaceous ulceration had proceeded so far in this lung, that at some points the pleura pulmonalis, which was much thickened, was left the sole medium between the contents of the sac and the cavity of the chest; while in other parts it was thick and spongy. On examining more minutely with the magnifier, open-mouthed bronchial twigs, and very small blood-vessels, were seen plugged up with solid and fluid carbon, and, from the appearance of the morbid structure, it was manifest, that the ulcerative process had effected a complete disorganization of the *bronchial* tubes of every calibre, while the smaller *arterial* vessels had alone suffered, leaving the larger ones entire.[1] Along the margin of the inferior lobe, indurated accumulations were felt through the pleura, and, on being laid open, they were ascertained to be impacted lobules, which resisted the knife. Previous to the division, both lungs weighed about six pounds.

On examining the right lung, which seemed much similar in weight to the left, and on making a section throughout its three lobes, the morbid appearances varied in each. The upper lobe was infiltrated with carbon into the interlobular cellular tissue, leaving the bronchial ramifications respirable, and lubricated with frothy mucus. The middle lobe presented a solid appearance,

[1] It is evident in this disease that the bronchial ramifications are destroyed, while the arteries, with the exception of the minute twigs, are preserved.

and contained a mass of indurated black matter, of the size of a largish apple, and consistency of consolidated blacking. The surrounding parenchymatous substance was disorganized, and undergoing the process of softening. In dividing the indurated substance, its external structure exhibited a variety of greyish lines, forming parallel and transverse ramifications, which resembled small check in appearance, and which, when more accurately examined, was ascertained to be the disorganised walls of the minute air-cells and cellular tissue. The inferior lobe presented a state of complete infiltration, with the air-cells generally entire, and on putting a piece of it into water, it showed its density by sinking.

When we examine the morbid appearances in this case, and compare them with the symptoms—when we consider that nearly all the respiration carried on in this man's chest, was performed in the upper lobe of the right lung, we are not surprised at his sufferings, nor is there much difficulty in explaining the very painful dyspnœa, on his attempting the recumbent position; and as death was instantaneous, it was evident that the immediate cause was the bursting of the left pulmonary cyst into the corresponding bronchus; the fluid carbon thus finding its way to the trachea, produced suffocation.

The liver was exceedingly large, projecting outwards and downwards from under the ribs, and pushing up the diaphragm. Its substance was soft, engorged with dark blood, and easily torn. There was no carbonaceous deposit throughout its structure, and its weight was upwards of twelve pounds. There was a considerable quantity of very dark bile in the gall-bladder. The heart was large, soft, and pale. There was considerable attenuation of the walls of both auricles and ventricles. The coronary veins were much distended with dark blood. The columnæ carneæ of the right ventricle were exceedingly slender and bloodless; the tricuspid valve was much thickened, and studded on both sides with small cartilaginous granules; the other cavities of this organ were apparently healthy, though thin in substance. The pericardium, which was rough, and much distended, exhibited a variety of false membrane on its internal surface, of a dark brown colour, and contained about eight ounces of dark fluid, similar to that found in the cavity of the pleura. In tracing the bronchi from the lungs to the bifurcation, the mucous membrane, which was smeared with fluid carbon, appeared much irritated, and considerably thickened, diminishing the diameter of these passages; and there were found externally at the root of the lungs, and around the bronchi, several large glands, containing a fluid to all appearance carbonaceous. The trachea showed a similar irritated condition with that of the bronchi. A little above the bifurcation, and at the back part of the trachea, a cluster of lymphatic glands were found, some of them the size of a horse bean, filled with carbon.

The spleen was very large, and much darker than usual, highly

congested with venous blood, easily torn with the fingers, and weighed about three pounds. Kidneys small, pale, and soft; bladder small, and corrugated; large accumulation of light brown fluid into the cavity of the abdomen, to the extent of two Scotch pints. The viscera were much compressed from effusion. There was a rough brown exudation upon the surface of the peritoneum and intestines. The stomach was contracted to a small size. The mucous membrane was soft, pultaceous, and easily removed, tinged with dark green bile. The lymphatic glands along both curvatures were small and flaccid, and contained no black matter. The intestines appeared empty and contracted. The duodenum showed the same softened state of its mucous membrane as was exhibited by the stomach. The mesenteric glands were free from any disease. The head, on removing skull-cap, dura mater found natural; serous effusion to small extent under the arachnoid; very general congestion of the pia matter, giving both hemispheres of the brain a blackish appearance. The superior longitudinal sinus was filled with dark, inky-looking blood. In removing the pia mater, the convolutions of the brain were firm, and appeared natural. There was a light brown effusion into both lateral ventricles to the extent of about an ounce. Reid, when he first came to Preston-Hall, had inhaled the evolved smoke of the coal-mine, thereby laying a foundation of this infiltrated mass. It must be manifest to every one who follows out the history of this case, and attends to the morbid appearances found within the chest, that there was a progressive accumulation of carbonaceous matter going on in the substance of the lungs from the time the patient engaged in working this difficult seam of coal till his death.

Case 3. D. S. was aged 39 years at his death, in August 1838. He had been engaged as a coal-miner so soon as he was able to undertake work. He was a tall, muscular man, and for a long time enjoyed excellent health. He first began mining operations at one of the Pencaitland collieries, and continued to labour there for many years. About six years before his death, he was induced by an increase of wages, to undertake stone-mining in the same pit; and soon after engaging in this employment, he began to be troubled with a slight cough, accompanied by dyspnœa, palpitation, and oppressive headach, which symptoms rapidly increased in severity. He declared that his cough and general ailments first showed themselves after labouring for a considerable time at stone-work, with the aid of gunpowder, in a situation where the air became so impure, both from defective ventilation and carbonaceous particles floating in it, as materially to affect the breathing. Although he repeatedly changed his place of labour from one coal-work to another more healthy in the same parish, he experienced no mitigation of his annoying cough. When I first saw this man for medical advice in July 1834, he had then been about two years engaged as a stone-

miner, the bronchial irritation was very general throughout the chest, he had severe cough, hurried breathing, little or no expectoration, and on applying the ear to the thorax, the sibilant and sonorous bronchi were distinctly heard, which indicated a swollen and irritated condition of the mucous linings of the air-passages, and this irritation was also manifest in the mucous membrane of the nostrils, which was much swollen, acutely tender, and impeding considerably the passage of the air. The pulse was rather frequent, about 85 in the minute. There was present much heat of skin during the night, which subsided towards the morning.

The remedial measures were blisters and expectorants, which relieved him considerably. The cough recurred in paroxysms, accompanied by severe headachs, with little frothy mucous expectoration, and there was occasionally observed a slight tinge of blood in the sputum. At this period, his appetite was good, and with the exception of his cough and difficulty of breathing at night and morning, he seemed usually very well. Though labouring under his disease, he continued at his employment of stone-mining, and would not be convinced of its injurious effects.

July 1835. There was considerable increase of the palpitation when he attempted the recumbent position, or moved hurriedly. The remedies ultimately seemed to produce little effect. His general exhaustion advanced rapidly, and obliged him to relinquish all mining occupation. At the end of the summer of 1836, when I saw him more regularly, and was enabled to watch his symptoms with more attention, these having materially changed for the worse, percussion elicited dulness over the chest, with the exception of the upper part of both lungs, where the mucous râle was heard louder than usual. The heart's action was strong and irregular, particularly so for some time after a fit of coughing, when he suffered excessively from headach, succeeded by a tendency to drowsiness. The pulse was slow and languid, not exceeding 50 in the minute. His countenance had assumed a greyish inanimate aspect, his eyes became sunk, his robust frame bent and so emaciated from this peculiar disease, that though his age did not exceed 38 years, a stranger looking at him, supposed him to have attained the age of 70. No treatment seemed to have any effect in allaying the cough, nor was he permitted to lie down. From his feeling of dyspnœa and thoracic oppression, his nights were almost sleepless, his extremities œdematous, usually cold and bloodless.

During the greater part of the time he was confined to the house, the bowels were constipated, requiring daily purgatives. The urinary secretion was small in quantity and high coloured, but in neither discharge was there any thing very unnatural. In this almost inanimate condition he lingered on, when about six months before his death, during a paroxysm of cough, he expectorated a mouthful of thick black matter, and continued so to do periodically,

at intervals of about three weeks, seeming to experience relief after voiding the carbonaceous sputum.

There was little change in the symptoms of this man till death. He took little or no food, from his appetite being almost entirely gone, and from gastric irritation being constantly present. His cough and dyspnœa continued severe, with drowsy headachs and difficulty in keeping the body warm. The arterial action was exceedingly low. The pulse was 40 in the minute, and difficult to discern. The strongest stimulant produced no increase of action, the sitting position was the only one in which he was at all easy, and in which he remained day and night till he ceased to live.

Post-mortem examination, twenty-four hours after death.—The body was much emaciated. The chest large, and integuments tightly drawn over it, the ribs unyielding. In removing the anterior part of the chest, the lungs adhered strongly to the ribs, and were covered very generally with patches of dark-red false membrane, corrugating the pleura. Each side of the thorax contained fully a pint of light-brown fluid. In removing the left lung, it felt firm and developed, and in dividing it throughout its lobes, a variety of small cavities and indurated masses of carbon were found to pervade its substance, exhibiting a sooty appearance, extending throughout the whole structure. The indurated nuclei were ascertained to be impacted lobules, and the small cavities were these disorganized and softened, and communicating with the bronchial tubes. Part of the upper, and the whole of the inferior lobe, were soaked with carbon, and felt indurated. The right lung was similarly disorganized with the left. The greater part of the superior lobe was permeable to air, and the interlobular tissue contained carbon, in small, hard granules. The middle and inferior lobes contained several hard, indurated bodies, progressing to a state of softening, and in separating a portion of the latter lobe, it was found to sink in water. There was emphysema of the margin of the inferior lobes. There appeared considerable irritation and softening of the mucous membrane of both bronchi, extending from the root of the lungs to beyond the bifurcation of the trachea. There were several enlarged bronchial glands at the apex of the lungs, containing black fluid.

The pericardium contained about eight ounces of straw-coloured fluid. There was a light-brown exudation, extending over serous lamina of the pericardium and the surface of the heart. The heart was flaccid, the right auricle and ventricle were enlarged and attenuated, and both vena cava at their junction with the heart were much dilated, the valvular structure natural.[1] In this case head not examined, but which no doubt would have shown marks of extensive congestion, as in other cases.

[1] The liver was large, soft, and easily torn. The abdominal viscera in general appeared healthy; slight effusion into the cavity of the peritoneum.

The above case comes under the second division of this disease, where the irritative process resulting from the foreign body pervading the lungs, had advanced so far as to produce a variety of small cysts, and circumscribed, indurated masses, the former containing *fluid*, and the latter *solid* carbon, and it is evident in tracing its progress, that there must have been a very rapid increase within the system in the carbon originally deposited in the pulmonary structure by inhalation. There was very limited black expectoration shortly before death, and this merely the contents of a few small cavities communicating with the bronchial ramifications, while both lungs were extensively infiltrated with that matter which, had the patient lived, would have produced general softening, and more extensive excavations by the coalition of the various indurated lobulæ.

Case IV. J. T., aged 45 when he died, May 1837. He became a collier in early life, in the neighbourhood of Glasgow, and came, at the age of 22 years, to East Lothian, to engage in collier labour at Blind Wells, near Tranent. From his own account, he was rather of a delicate constitution, and ill-fitted for the work of a coal-pit, consequently, after labouring a few years, he was, at the age of 26,—owing to cough and difficulty of breathing,—obliged to relinquish the employment of a miner. He left East Lothian, and retired to the west of Scotland, where he became a country merchant, and continued so occupied for upwards of fifteen years. During that time, he was occasionally troubled, particularly in the morning, with his cough and hurried breathing, which was increasing in severity, but at no period had he expectorated black matter, nor was there any indication that his sufferings arose from carbonaceous disease. On account of becoming reduced in circumstances, he was under the necessity, though labouring under chest affection, of returning to his former employment of coal-mining at Blind Wells, at the age of 41, August 1834. He had not been long engaged as a miner, after his return to East Lothian, when his cough increased considerably, with laborious breathing, palpitations, and overpowering headach. Both now and formerly, he wrought solely as a coal-miner, and at no time of his life did he work as a *stone-miner*. Having a family to provide for, he struggled on laboriously under much suffering from his chest affection, till general exhaustion compelled him to leave off work, and seek regular medical advice, July 1836. From his statement regarding the cause of the disease, I was led to understand that his cough, which never left him from the time he was first seized, was induced, at an early period, by bad air generated in the coal-pit at Black Wells, from the work being ill ventilated, and from the general use of coarse linseed oil for the lamps.

When I first saw this man professionally, he was labouring under general weakness; his pulse was not above 40 in the minute, small

and thready. He suffered from drowsy headach, anorexia, cold and slightly œdematous limbs. He had incessant cough, with tough mucous expectoration. During a severe paroxysm, he vomited a mouthful of black paint-like fluid, followed by considerable relief, and ever after till his death, he continued to expectorate the same substance in great quantity, often to the extent of 15 oz. daily. In examining the chest with the ear, the sound, from the distinct pectoriloquy, indicated a cavernous state of both lungs; otherwise the bruit was obscure.

The remedies were merely of a palliative character, knowing the patient to be rapidly sinking. In this exhausted state he remained for some months; his appetite was almost entirely gone; the œdema of limbs increasing. There was also a leaden hue over the surface of the body, which was constantly cold. At this stage, the quantity of urine voided was small and dark in colour. Bowels obstinate; occasional vomiting. The pulse ranged from 38 to 40. The lips and ears were livid, and his drowsiness became more overpowering as death approached.

Post-mortem examination.—The body was much emaciated; the ribs were prominent and unyielding. On removing the anterior part of the thorax, the lungs were found firmly adhering to the pleura costalis, and of a dark blue colour. There was an effusion to the extent of about sixteen ounces of light-brown fluid, found in the cavities of the pleura. The greater part of the effusion was into the left side. The lining membrane of the chest was almost wholly covered with false membrane of a dark brown colour. The right lung filled almost completely the right cavity of the thorax, while the left lung appeared much contracted, particularly towards the apex. The pleura of both lungs was much puckered, and interspersed with dark red patches around the adhesions. Three or four of the substernal glands were found considerably enlarged, and filled with black fluid, and a cluster of the anterior mediastinal and lymphatic glands contained fluid having the same appearance. The right lung appeared solid to the feel, when removed from the body. It was rough and irregular over its surface, from a variety of indurated substances projecting from beneath the pleura. In making a section of the whole lung, each lobe was almost completely saturated with thick inky fluid, and was observed to be here and there hard and granular, particularly in the course of the larger bronchi. Portions of this lung were pervious to air and emphysematous, but the greater part was disorganized, and contained carbonaceous matter in a solid and fluid state. The left lung was light and flaccid, when compared to the right. The upper lobe was extensively excavated. The parenchymatous substance was found ragged and unrespirable, and many large blood-vessels crossing from either side of the cavity, pervious to blood. With the aid of the magnifier, a variety of open-mouthed bronchial twigs and minute blood-vessels were visible, communicating with the cavity. The upper part of

the inferior lobe was partially excavated, and containing about four ounces of fluid carbon. The lower margin of this lobe was firmly impacted.

The mucous membrane of the trachea and bronchial divisions appeared, when washed and freed from the black matter, red and softened. The lining membrane of larynx was partially ulcerated, and the rima glottidis slightly œdematous. There were various small lymphatic glands on the back part of the trachea, which contained black fluid.

The pericardium considerably distended, and contained nearly twelve ounces of light-brown fluid. Evident marks of inflammatory action were observed externally. On its internal surface it was thickly coated with false membrane of a brown colour. The heart was pale, soft, and attenuated. The right auricle was much dilated, and its walls exceedingly thin. There were no further morbid appearances. Head,—External congestion of an inky colour was found on the surface of the brain, which was to all appearance otherwise healthy. There was an effusion into both lateral ventricles. The abdominal viscera were natural. The liver was much larger than usual, soft, and highly congested with inky-coloured blood.[1]

It is evident, from the symptoms and history of the above case, that the patient had contracted the disease of which he died at an early period of his life, and that during the fifteen years he refrained from mining operations, the pulmonary structure retained the carbon inhaled while labouring in the coal-pit, and this is one of the many cases which can be produced as examples of the fact, that the foreign matter once deposited in that structure originates a process of accumulative impaction and ultimate softening of the organ, which is gradually carried on till it is entirely disorganized. This case comes under the third division of the morbid action, viz. where extensive excavation of the structure is produced.

Case V. A. G., aged 52 at his death. He was a collier from his boyhood, and wrought during the greater part of his life at Penston colliery in the parish of Gladsmuir. He was a short-set robust man, and while labouring at Penston, he enjoyed usually good health, free from cough or any affection of the chest. When he had attained the age of 48 years, (1833), he removed from the Penston to the Pencaitland coal-work, and about six months after making this change, he began to experience a slight difficulty of breathing, accompanied by a troublesome cough and feverish nights. The pulse was 84. Various soothing remedies were administered, which relieved for a little the pectoral symptoms; and as he felt

[1] One of the lungs (the left one) now described, I sent to Dr John Thomson, late Professor of Pathology, and will probably be found in his collection, which I understand is in the College of Surgeons.

no decided physical debility, he continued as usual at underground work. In 1835 I saw him often, and found that his pulmonary symptoms were becoming more marked; his cough was excessively annoying in the morning and when going to bed; his expectoration was frothy mucus, with dyspepsia, palpitation, and occasional headach. The resonance of the chest on percussion was very slightly impaired, and the respiratory murmur was variable, being occasionally louder at one time than another, and often much obscured, from the mucous secretion.

Labouring under this chest affection he still continued his daily employment till the spring of 1836, when he was entirely laid aside, being unable to go below ground, or to take the slightest fatigue, for the smallest exertion produced a fit of coughing; and during a paroxysm of this kind, he expectorated a few black sputa, which in a few days disappeared, and gave place to the usual frothy mucous expectoration. This bronchial discharge was accompanied by considerable relief to the cough and dyspnœa. By this time, (June 1836), on applying the ear to the chest, the resonance is dull, and respiratory murmur obscure. The action of the heart was slow when compared to its former state. The pulse not beyond 45 in the minute. By the end of this year he appeared in a half dead state,—but a mere shadow in regard to flesh. He was expectorating at intervals of some weeks, when the cough became more severe, a few carbonaceous sputa, and suffering severely from gastric irritation.[1] During the last week of his life, he expectorated considerable quantities of black fluid, and died exhausted, January 1837.

Post-mortem examination, which was conducted hurriedly, exhibited extensive effusion into both sides of the chest. The adhesions of the pleura were strong, and evidently of long standing. There was very general carbonaceous infiltration throughout the lungs, without excavations to any extent. Various empty cysts, which could contain a hazel-nut, were found in the superior and middle lobe of the right, and throughout the whole of the left lung, in which bronchial twigs terminated. The pericardium was distended, with limpid effusion. The right side of the heart was dilated, and filled with dark treacly-looking blood; and when washed, it appeared pale and bloodless. Its walls were thin, various patches of brown exudation extending over both pleuræ. There were several enlarged lymphatic glands, found at the root of both lungs, filled with black fluid.

In examining the head, the pia mater was found much congested; but there was no effusion discovered into any of the ventricles of the brain, nor any other indication of disease.

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[1] After a free expectoration of black matter, there was an evident mitigation of all the pectoral symptoms, and as the carbon again accumulated in the lungs, the sufferings of the patient were very considerably increased.

In tracing the history of this patient, connected with the disease, it will be observed, that until he came to Pencaitland colliery, he had no symptom whatever of chest affection. Penston coal-work is exceedingly well ventilated, and the miners who labour there seldom, if ever, suffer from the black expectoration, owing to the evolved smoke of every kind being freely carried off from its underground works, while it is quite the contrary at Pencaitland, where many colliers, on leaving Preston, are seized with the disease. This case comes under the second division of the disease, where the irritative process, the result of the foreign matter in the lungs, has proceeded so far as to produce a variety of small cysts, containing fluid, or semi-fluid carbon, following the course of the bronchial ramifications.

Case 6. D. L., aged twenty-six years at his death, in August 1837. He was the son of a collier, at Pencaitland, and engaged at an early age in putting the coals to his father; and when he was fit for full collier-work, in 1831, he was employed at the same coal-work. He was a tall, well-formed, robust young man, and not at all liable to chest affection. For some time he wrought as a coal-hewer, but latterly was induced, (1834), for higher wages, to become a stone-miner in the same coal-pit, where gun-powder was used extensively in the operations. About six months after he commenced stone-mining, he became affected with a short tickling cough, expectoration of pearly tenacious phlegm, hurried breathing, tightness across the chest, frequent pulse (95), heat of skin during the night, and occasional throbbing in the head. Being young, and fearless of any danger from the occupation, although warned of the consequences, he continued to prosecute it, and twelve months (May 1835) after he first began, the cough had increased much in severity. The expectoration was diminished, and had become more difficult to void from the bronchi, and the breathing was more oppressive, accompanied by a painful tightness across the chest in the morning. The body was considerably reduced in bulk to what it previously had been. The pulse ranged from 80 to 90; the appetite was impaired, and there was in the morning a tendency to retching. The nocturnal heat of skin continued, without any moisture, though his body was drenched with a clammy sweat during the hours of labour. The respiratory murmur was harsh and extensive at the upper part of both lungs, while the sibilant ronchus was heard occasionally in the lower lobes. The heart's action was regular, but impulse strong, on applying the hand to the cardiac region. The remedies resorted to were blisters, bleeding (at an early stage), expectorants, and tonics, which, to a certain degree, relieved the more urgent symptoms.

In October 1835, the disease having made rapid progress, all the symptoms had become more marked. The cough, from its fre-

quency and severity, was extremely exhausting, and the expectoration had become more copious, and of a semi-black colour. The mucous râle was evident in the upper part of both lungs, while the inferior lobes were dull to the ear, and on percussion. The heart's action, at this stage, was less strong, but no peculiarity in its function could be discovered. The cardiac region exhibited every indication of effusion into the pericardium. His body was now considerably emaciated, and the anterior part of his chest was so much contracted, as to oblige him to stoop to a great degree. Under this load of disease, he continued his employment of a stone-miner, gradually losing flesh, with a rapidly increasing black expectoration; and having several dependant on his exertions, he resolved to work, while he could keep on foot, which he did till September of the following year, (1836) when his once powerful body was so reduced, from disease, and his cough so incessant, that he was unable to move or speak without great fatigue. He preferred the sitting position, as giving him most fredom in breathing. The pulse was rather slow and small; the heart's action languid, and there was an evident increase of dulness upon percussion over cardiac region. At this, the closing period of the disease, (November 1836) he first complained of drowsiness, accompanied by headach. The countenance was pallid; the eyes sunk and inanimate, and the body tending to be cold; the urinary secretion of a dark brown colour, and precipitates a dark deposit. The bowels were exceedingly obstinate, with little change in any of the symptoms; he lingered till January 1837.

Post-mortem examination.—The body was much emaciated. The thorax was large, and well arched. On removing the anterior part of the chest, the lungs appeared to be fully developed, and of a dark blue colour. There were several very slight adhesions between the pleuræ, and the effusion into both cavities was small in quantity. The pleura costalis was almost free from any exudation, but there were a variety of small patches of false membrane throughout the pleura pulmonalis. The left lung exhibited general carbonaceous infiltration. The upper lobe was partially excavated. The pulmonary structure, internally, was ragged and easily torn, and these cavities communicated with the bronchial divisions, forming various septa. The inferior lobe was almost impervious to air. The minute bronchial ramifications and corresponding lobules were impacted with dense carbon. There were several clusters of small cysts throughout this lobe, containing carbon in a fluid state. A portion of this lobe sank in water from its density, and when squeezed with the hand, thick fluid carbon, containing hardened particles, could be expressed from it. The right lung was similar in external appearance to the left. The upper lobe was crepitant, though infiltrated with carbon into the interlobular cellular tissue. The air-cells were gorged with tenacious mucus. The middle lobe was partially excavated. The cellular tissue was considerably dis-

organized, and similar in diseased structure to the upper lobe of the left lung, with the exception of a portion affected by vascular emphysema. The inferior lobe was much condensed, and loaded with carbon of a very bright black. The mucous membrane of the bronchial tubes was thickened, and slightly ulcerated. Various lymphatic glands were found at the root of both lungs, containing black fluid. The pericardium was considerably distended from effusion of a straw-coloured fluid. The internal surface of the pericardium was rough, and both laminæ appeared thickened from inflammatory action. Effusion into cavity of chest to the extent of twelve ounces. The heart was natural in appearance, but thin in substance. The tricuspid and mitral valves were thickened, and exhibiting minute granulations on their surface. The right auricle and ventricle were dilated considerably. Aorta, and other vessels proceeding from heart, were natural. The stomach was small, and exceedingly spongy in its mucous lining. The intestines were healthy. The kidneys were small, and peculiarly yellow in the internal structure. The liver was large, and engorged with dark thick blood; several small carbonaceous cysts throughout its substance. The spleen was large, soft, and much congested. The mesenteric glands free from black matter.

Head.—The arachnoid thickened and opaque; there was very general congestion of pia matter with dark black blood, and when removed, convolutions studded over with innumerable dark points. The surface of the brain was apparently healthy, with an effusion of a light pink-like fluid into the lateral ventricles. The internal substance of the brain natural.

This case is interesting, as showing the very rapid course, in some instances, of the disease to a fatal termination, and also how soon the strongest man can be brought under its destructive influence. This is the only case in which carbon was discovered in any of the other organs, as exhibited in the liver. The above case comes under the third division, showing extensive excavation of the pulmonary structure.

Case VII. James R. aged 54 at his death, 1836. He was a large muscular man, and wrought as a coal-miner in early life at Pencaitland, and, as far as could be ascertained, he had never been engaged at stone-mining. At the age of thirty he was obliged to desist work, on account of a difficulty in his breathing, which he considered to be asthma, and he was occupied above ground, as the engine-man, during the latter part of his life. The slightest exertion produced exhaustion and palpitation of the heart; his bowels were obstinate, and his urinary secretion small in quantity. His cough was particularly troublesome in the morning, and was relieved by a free expectoration of frothy mucus. In this condition he continued, with the cough gradually increasing, for nearly

twenty years, as I understand, when he began to void black sputa, which daily augmented in quantity till his decease, August 1836.

For some weeks previous to his death, his pulse had become slow and thready, 36 in the minute. The œdema of the upper and lower extremities was extensive; the dyspnœa increased considerably; the countenance was livid; and the body remarkably cold. Stimulants in considerable quantity were administered without the smallest effect. Drowsiness supervened; and he was for some days previous to dissolution in a torpid condition, while at the same time he was quite collected when roused.

Post-mortem Examination.—On examining the body, the chest was large and well formed. The effusion into the cellular substance was very general. The cartilages of ribs were ossified, and both lungs were adhering strongly to the pleura costalis. There was large effusion into both cavities of the chest, to the extent of three English pints in whole. The pleura pulmonalis was much thickened and rough, with false membrane, and many patches of puckering. Several lymphatic glands in the anterior part of the mediastinum contained black fluid. The left lung was carbonaceous throughout its substance. The upper lobe partially excavated and ragged; the inferior lobe infiltrated and emphysematous. The right lung was of corresponding black appearance. The lower lobe had a firm and condensed feel, and when divided, exhibited a mass resembling indurated blacking. The middle lobe was in part permeable to air; and there were several small cysts containing liquid carbon, connected with minute bronchial ramifications. Various indurated knotty bodies were extended throughout its substance. In the upper lobe, the carbon was confined principally to the interlobular cellular tissue, and when pressed in the hand, gave out thick, black, frothy serum. The mucous membrane of bronchial divisions, when freed from the black matter, was swollen and eroded as far up as the bifurcation of the trachea. At several parts these passages were considerably contracted.

The heart was enlarged, and dilated in all its cavities. The valves of the right and left ventricles were thickened, from congestion of very minute veins, and were granular to the feel. The substance of the heart was soft. There were eight ounces of effusion into the pericardium, resembling that formed in the cavities of the thorax. The liver and the spleen were large; the former peculiarly yellow and oily. Several very large veins, containing inky-looking blood, were seen ramifying its substance. The spleen was very friable. The kidneys were small, and apparently healthy.

Brain not examined.

This case comes under the third division of the disease. R.'s case is peculiarly striking, from the length of time (twenty years or more) that the carbon was concealed within the pulmonary tissue, and also because he had never been engaged as a stone-miner; so

that this case, along with others, illustrates the fact, that where the morbid action is the result of lamp-smoke, from the combustion of coarse oil, and not gunpowder-smoke, the disease is much slower in its progress, but ultimately fatal.

Case VIII. R. D., aged 37, at his death 1839. He was the brother of George Davidson, subject of the first case in this Essay. He began to labour as a miner, with his brother, in early life, at Pencaitland coal-work. He first began as a coal-miner, and after being so engaged for five or six years, he removed to Penston coal-work, which adjoins. He continued healthy for a considerable length of time, and at his brother's death, December 1836, he was free to all appearance from any affection of the chest. He returned, 1836, to Pencaitland coal-work, where he engaged as a stone-miner, knowing that such employment was destructive to life; and from that change he dated the commencement of his disease. Cough, palpitation, dyspnœa, headach, quick pulse (90 in the minute), made their appearance, soon after he began trap labour, and these symptoms gradually increased, till he was laid aside in the course of two years, (1838,) when he first expectorated black sputum.[1] As his exhaustion advanced, the carbonaceous expectoration became more copious, and he discharged from the lungs at an average twelve ounces of fluid, resembling liquid blacking, daily; and he died in a manner similar to his brother, Case No. 1. Some weeks previous to his death, his pulse rapidly sank to about 45 or 50, and became exceedingly feeble;—cold extremities, œdema of the legs and arms, lividity of lips, eyelids, and ears, preceding dissolution.

Post-mortem Examination.—The chest was contracted; the ribs unyielding, with extensive adhesions of the pleuræ. Both lungs were of a dark-blue colour, much puckered from patches of false exudation. There was extensive effusion into both cavities of the chest; and the right lung showed carbonaceous infiltration throughout its whole extent. The superior lobe was excavated, so as to contain a small orange; and about six ounces of thick, black matter were found in it. The middle lobe was crepitant, though soaked with black fluid; several impacted lobules were scattered throughout its substance. The inferior lobe was indurated, resembling a piece of moist peat. The left lung was cavernous in both lobes, and the cysts were empty, the contents having been expectorated. A small portion of the upper lobe was pervious to air. There were several enlarged bronchial glands at the root of both lungs; and the tracheal glands contained black fluid. The liver was large, and its substance soft.

Head.—There was extensive congestion of the blood-vessels of

[1] This sputum was subjected to the action of nitric acid, which produced no effect upon its colour.

the brain, with effusion into the lateral ventricles. The viscera of the abdomen were extensively congested, with slight effusion into the peritoneal cavity.

It will be observed in referring to the history of this case, that till the time this man became a stone-miner, and carried on his operations with the aid of gunpowder, he had no symptom of the disease of which he died, and it is evident that the disease, if commenced, had made little or no progress till after his return from Penston colliery to Pencaitland, and after he had inhaled the residuum of gunpowder combustion, therefore the disorganization of the pulmonary structure was to all appearance effected between the summer of 1836 and December 1838, showing decidedly the very irritating character of gunpowder smoke upon the delicate tissue of the air-passages.

Case 9. J. D., aged 37, at his death, April 1844. He was a well formed man, with a fully developed chest. At so early an age as seven years, he engaged in the labour of the coal-pit at Preston-Hall, Mid-Lothian, and he continued to prosecute that employment for a period of 15 years, when he was obliged to relinquish the work on account of an affection of the chest, being, as he termed it, "touched in the breath." During the subsequent 15 years of his life, he had never once entered a coal-pit, nor had he any connexion with coal-works, but earned his bread by the trade of a travelling merchant. He had suffered much in his wanderings, from his breathing,[1] for more than two years continuously, while loss of appetite, and thoracic irritation, had rendered his physical frame as weak as that of a child.

When I first saw this man, which was about a month before his death, he laboured under rending cough, with a scanty tough mucous expectoration—oppressive dyspnœa, ascites, general anasarca, occasional giddiness, and throbbing headach on motion, or on assuming the standing position. His countenance was of a light blue or slate colour, and his upper and lower extremities had much the same appearance. His lips, eyelids, ears, and nose, were swollen and livid, and his eye-balls effused, and apparently projecting from the sockets. His sight was impaired and hazy. There was continued feeling of cold, with occasional rigors, and difficulty in keeping the extremities warm. There was considerable exhaustion upon the slightest exertion. The half reclining posture was the only one in which he was comfortable. The pulse was exceedingly slow, not above 36 in the minute, it was small, and often imperceptible at the wrist. There was considerable weight and feeling of oppressive fulness in the region of the heart, which was dull on percussion. On apply-

[1] When pulmonary disorganization has proceeded far, from the presence of carbon, there is a languor in the vital action from defective oxygenation of the blood, which produces a gradual reduction in the temperature of the body, requiring double clothing, and even that addition is not sufficient to keep the patient warm.

ing the ear to the chest, little or no râle whatever was discernible, and the action of the heart was almost inaudible. He had a sensation as of great weight in the head, and difficulty in raising it. He suffered from restless nights, short hurried breathing, with a feeling and dread of suffocation, evident fulness and enlargement in the region of liver, and inability to turn to the right side. The urine was small in quantity, of a bluish colour, and coagulable, irritability of stomach, and the bowels were obstinate and difficult to move, even with drastic purgatives. The treatment was merely palliative, no stimulant seemed to have any effect in exciting the system. Ascites and general anasarca were considerable, giving the body a large appearance. For some days previous to his dissolution, there was increased lividity of countenance, and little or no action of heart. He had at no time expectorated carbon, even during many severe paroxysms of cough. Upon inquiry, I found that this man had been a companion in labour to R. R. (whose case, No. 2, is fully reported,) at Preston-Hall colliery, and from the morbid appearances found in R.'s chest, and from the character of the coal-work in which both were engaged, I was induced to believe Duncan's to be a similar case. In ascertaining his early history, I found him to be a robust powerful man, though troubled with a cough and hurried breathing from his first becoming a collier, circumstances very usual with those who engage in difficult mining operations, and which they erroneously attribute to want of air, nothing more.

Post-mortem Examination, twenty-four hours after death.—The body was much swollen from effusion. On removing the anterior part of the chest, both lungs were much compressed from an immense effusion of a light brown fluid into the cavities of the chest to the extent of a gallon. The lungs were of a deep black colour, and irregularly spotted with dark brown patches of exudation. There were considerable adhesions of the pleuræ, and marks of very general chronic inflammation and false membrane over the greater part of the pleura costalis. There were adhesions of the left lung to the pericardium, which was much thickened, and contained about 14 ounces of a turbid fluid. On removing the left lung, it seemed large, and felt partially consolidated, and on dividing it throughout both lobes, it contained a mass of semi-fluid carbon, of a bright black colour, similar to paint. In this lung, the air-cells were almost entirely disorganized, unfitting it for the function of respiration. The upper lobe was divided into a variety of cysts, filled with carbonaceous matter in a fluid state, into which many of the smaller bronchi opened, and through which various blood-vessels passed uninjured. The inferior lobe, when emptied of its contents, was so much excavated that the parenchymatous substance felt light and flaccid. On dividing the right lung[1] it exhibited a pure black mass, but no tso

[1] This lung is in the possession of Sir James Clark, of London.

fully disorganized as the left. Portions of each lobe were permeable to air, while other parts formed cysts, containing fluid and solid carbon, the inferior lobe showed an almost solid mass. The mucous membrane of the respiratory passages was inflamed and spongy throughout the divisions, the small ramifications were irritated and choked up with tough, frothy phlegm. There were several large bronchial glands at the root of the left lung. In tracing the divisions of the bronchi more minutely, from the root of the lungs into their substance, clusters of glands were observed filled with inky fluid, and narrowing considerably the air-passages, and in washing carefully a portion of the upper lobe of the right lung, and removing as far as possible the carbonaceous matter, several lymphatic glands were seen with the aid of the magnifier, imbedded in the interlobular cellular tissue, resembling small black beads. The tracheal glands when examined, contained black fluid, similar in appearance to what was found in the bronchial glands. The mucous membrane of the trachea was soft and irritated, smeared with tough bloody mucus, the lining membrane of the rima glottidis was thickened and slightly granular.

The heart was much enlarged, and soft, with spots indicating chronic inflammatory action on and about the right auricle. Both auricle and ventricle on the left side of the heart contained a deep-dark blood. There were several large lymphatic glands imbedded around the great vessels proceeding from the base of the heart, containing black fluid, the other cavities appeared healthy, though attenuated in substance. The coronary veins were congested. None of the cervical glands contained black fluid, though several of them were enlarged. The cavity of the abdomen much distended from ascites; the contained fluid was to the extent of about six Scotch pints of a straw colour; the viscera much compressed, and matted together, with light brown exudation. The peritoneum was rough, and coated with the same exudation. The stomach and all the intestines correspondingly contracted; the mesentery appeared healthy; the liver was much enlarged, and darker than usual; the inferior lobe extending downwards, near to crest of ileum; the whole organ loaded with inky-coloured blood; the substance easily torn. The kidneys presented a natural appearance; the adipose substance in which they were imbedded was œdematous; the medullary substance of each presented a yellowish colour.

Head.—The integuments were œdematous. On exposing membranes; considerable effusion under arachnoid; very general venous congestion, extending over the convolutions, and to the base of the brain. Effusion into the lateral ventricles of a light yellow; the choroid plexuses thickened, and of a dark venous appearance; substance of brain firm and apparently healthy.

From the history of this case, it will be found that D. had at no time shown any indication that carbon was infiltrated into

the lungs. At an early age he came under the influence of the smoke of coarse linseed oil, and of gun-powder, while labouring in an unhealthy and ill-ventilated pit, which produced a cough common amongst colliers, who may be placed in similar circumstances; and it is evident, that during the last fifteen years of his life, the carbon—having previously taken up a lodgment in the pulmonary tissue—was gradually accumulating, and thereby producing painful dyspnœa, and the other formidable symptoms connected with the circulating organs, which followed as results, till it had almost entirely saturated the cellular structure, and rendered the lungs unfit for the functions of respiration, consequently impeding the necessary change, through the medium of that function upon the blood.

There was a marked similarity in the morbid appearances between this case and that of Reid, (No. 2). They both wrought in the same pit at Preston-Hall, and were affected in a similar manner. Both had enlarged liver, and the left lung principally disorganised. Both had extensive anasarcous and other effusions, and both had coagulable urine. Neither expectorated black matter, and both died from the bursting of a carbonaceous cyst into the bronchi, producing suffocation. Duncan lived longer under the infiltration than Reid did; and this was no doubt owing to his being younger, and also his healthy occupation latterly.

I have preserved a quantity of the contents of a cyst in the left lung of this patient, for chemical analysis; also a portion of the blood from the vena cava, and a little of the black fluid from the bronchial glands, an account of which will be given in the next paper.

Case 8. (The subject of the following case is still alive, 1845.) J. S., aged thirty-six. He was born of collier parents, in the parish of Pencaitland, and at as early an age as eight years, went under ground to assist his parents in the transmission of the coal, and when fit for work became a coal-hewer. From his infancy he was rather of a delicate constitution, with flat and contracted chest. When I first saw him, which was about eight years ago, (1837), he was in full employment as a coal-hewer, complaining of shooting pains through his chest, tickling cough in the morning, with scanty tough expectoration, and frequent palpitations. He was repeatedly under treatment for bronchial affection, which was usually relieved by expectorants, blisters, and *continued* counter-irritants. Each attack of bronchitis was the result, as he expressed it, of "breathing bad air in the pit," in which he was obliged to relinquish labouring, as the lamp would not burn, from the state of the atmosphere. He never wrought at the stone-mining nor blasting. In examining the chest with the ear, at this stage of the affection, the mucous râle was distinctly heard, and exceedingly loud throughout the greater part of the chest. The heart's

action was strong, but natural; pulse 70, full and bounding. About four years ago, he removed from Huntlaw to Blindwell, a coal-work towards the sea-coast, an extension of the same coal formation. At this time, 1841, he had very troublesome cough, particularly in bed, scanty frothy expectoration, annoying dyspnœa, pueventing him taking sufficient nourishment, headach, obstinate bowels. He continued under all these ailments to labour with much difficulty, till the summer of 1843.[1]

EDINBURGH, 30 NORTHUMBERLAND STREET.

ARTICLE III.—*Description of an Electro-Magnetic Machine for the Application of Electricity to Medical Purposes. By* ALEXANDER KEMP, *Assistant Chemical Teacher in the University of Edinburgh.*

As the application of electricity to medical purposes has now become somewhat general, I thought that the description of an apparatus used in such cases, would not be unacceptable to some of your readers.

The arrangement is one which I contrived about six years ago, since which time it has been used in most of the hospitals in this country, and also to a considerable extent in private practice, and I believe has been found to answer well the purpose for which it was designed.

Before proceeding to describe the instrument, it will be necessary to say a few words with regard to the principles on which it acts, at least so far as these have been satisfactorily explained.

Electricity may be said to exist in two conditions, first, a state of rest, in which it is not recognized by the senses or by any of the instruments employed for its detection, but, nevertheless, capable of being called into action by various exciting causes, when it assumes the second condition, that of motion, in which it is capable of producing various effects on bodies which may be brought under its influence, and which effects differ according as electricity, in large quantity, or of a high degree of tension, is caused to act on the matter brought under its influence.

From all the experiments which have been hitherto made, it appears that however great the quantity of electricity which may be produced by chemical means, unless combined with a pretty high degree of intensity, it will be found incapable of producing the physiological effects which are desirable, in using it as a remedial agent. For example, although it is well known that we can, by the use of a single pair of copper and zinc plates, produce a current of sufficient power to affect the nerves of taste and vision, it appears to be absolutely impossible to induce involuntary muscular contraction

[1] Since writing the above the patient has died; and I regret that, owing to neglect in communicating with me, I have been prevented examining the morbid appearances.

in man by such a combination, however much we may increase the quantity of electricity by augmenting the size of these plates. As such an apparatus is easily constructed, and as the quantity of material consumed in exciting the current is comparatively small, any simple means by which it might be easily made available for medical purposes would be of some importance.

For the first successful experiments made on this subject we are indebted to Faraday. These experiments are detailed in the ninth series of his Experimental Researches on Electricity. From them we learn, that when two wires are placed parallel, and a current of electricity is transmitted through one of them, it induces a current in the other wire at the moment when the flow of electricity is interrupted in the first wire; and farther, that if the length of the second wire be greater than that of the first, the power of the *induced* current will be much greater than that of the *inducing* one, and that this increase of power will, in all probability, be in a direct ratio to the difference between the lengths of the wires.

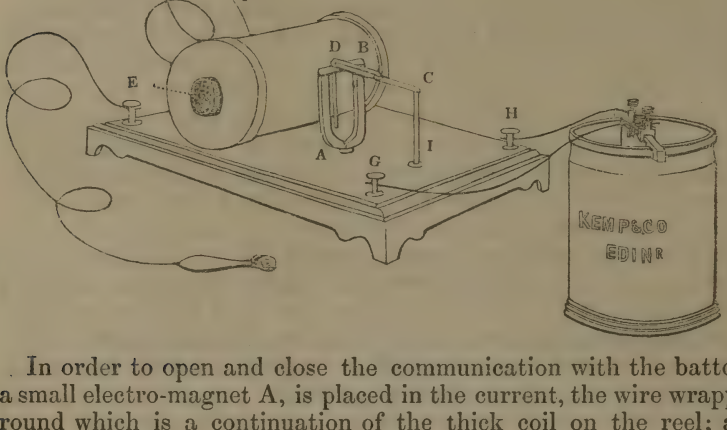
He also observed that a much greater effect is produced when the wires are closely coiled over each other, than when they are arranged parallel to each other in a straight line, which he accounts for by supposing that each coil of the wire, when the current is induced in it, re-acts on those which are contiguous to it, and therefore, that the sum of the effects is greater.

If a bar of iron be placed in the hollow axis of the coil, it will, of course, be magnetized during the continuance of the galvanic current through the coil, but will, on the cessation of this current, lose its magnetism; and this alternate change of its condition will induce, in the coil of wire, a series of currents, which, added to the others, will very much increase the power of the instrument.

These being established as facts, the only other consideration will be the arrangement best fitted to produce the effects sought for in using an instrument of this kind.

The instrument consists of a straight tube of very thin wood, having discs of wood fixed at its extremities, so as to form a kind of reel: upon this is first closely coiled seventy feet of copper wire, one-twentieth of an inch thick, covered with worsted, for the purpose of preventing lateral contact between the coils. This wire is intended to convey the current from the battery. Over this first wire there is, in like manner, placed about four hundred feet of copper wire, one-fiftieth of an inch in thickness, the ends of both wires being left out. If a battery in action be now connected with the ends of the first coil of wire, the current will circulate through it, but no appreciable effect will be produced on the coil of thin wire which is super-imposed, but if the communication with the battery be destroyed, immediately a current will be produced in the thin wire coil, and of much greater intensity than that which circulated in the other previous to the connection with the battery being broken, and which will be found to be capable of producing the shock and

other physiological effects; and which will be much increased by introducing into the hollow axis of the coil, a bar of iron, or better, a bundle of soft iron wires, which at the same time affords us an extremely convenient mode of regulating the strength of the induced currents; these being strongest when the bundle of wires is placed completely within the tube, and gradually weakened as it is withdrawn.



In order to open and close the communication with the battery, a small electro-magnet A, is placed in the current, the wire wrapped round which is a continuation of the thick coil on the reel; and supported above its poles is a soft iron keeper B, at the end of a brass spring C, which prevents it coming into contact with the magnet, but at the same time allows it a certain amount of motion. A small plate of platinum is soldered to the upper surface of the spring, which presses against a platinum point, supported above it by the bent brass wire D. Binding screws are fixed into the base-board of the instrument for the sake of convenience in attaching the wires which proceed from the battery, as well as those for the conveyance of the current to the patient.

The binding screws marked E and F, are soldered to the extremities of the secondary coil or thin wire, and serve for the attachment of the conductors, which transmit the current for producing the shock. One end of the first coil, or thick wire, is attached to G, the other being soldered to the bottom of the brass wire D, after having been first wound round the electro-magnet A, while I and H are connected by a long copper wire soldered to both.

If the two wires proceeding from a galvanic circle in action be introduced in G and H, the current will pass from H to I, ascend the pillar, and pass along the brass spring, until it reaches the small platinum plate, where the current enters the platinum point fixed on the bent brass wire D, from it to the coils of wire on the magnet, thence to the primary coil on the reel, and returns to the battery through the binding screw G, magnetising in its course the small electro-magnet A, the effect of which is to draw down the keeper,

and so separate the platinum plate and point from each other. By this the flow of electricity from the battery will be interrupted: this immediately induces a current in the secondary coil, which is capable of producing a shock when applied to the patient. The moment that the interruption takes place, the electro-magnet loses its attractive power, and the keeper instantly springs back to its first position, again establishing the connection with the battery. These motions take place so rapidly, that the shocks scarcely appear to be separated by a distinct interval of time.

In the woodcut, the instrument is represented in connection with Smee's battery.

ARTICLE IV.—*Case of Fracture of the Left Parietal Bone, from the Expulsive Action of the Uterus. By* J. B. WHARRIE, M.D., *Hamilton.*

THE body of a child having been found secretly buried near the Calder, it was reported to the Fiscal, when Mr Jameson, Surgeon at Bellshill, and I, were appointed by the Sheriff to make a *post-mortem* inspection of the body. There was handed over to us a coarse deal box, nailed up, on opening which we found the body of a female child, wrapped up in some clothes. Before proceeding to dissection, we carefully examined it, and observed no marks of injuries, except that the cranium near the posterior fontanelle had a puffy feel, as if from containing extravasated blood, and when pressure was made upon the forehead, blood issued from the right nostril. The muscular substance of the body was firm, but the cuticle in parts easily peeled off, as if from incipient putrefaction; from the weather being cold, we conjectured two or three weeks had elapsed since delivery. The navel cord was cut and tied, six inches of it still remaining attached to the body. The child weighed seven pounds, and measured in length twenty-one inches. The chest had a flat appearance, and there were no marks around the anus of meconium. On opening the body, we found the lungs of a dark colour, with their edges sharp, occupying but a small space in the posterior part of the chest, and not covering the heart or pericardium: and the diaphragm was arched upwards. The lungs, with the heart, being removed from the body, and placed in water, sank to the bottom of the vessel; both lungs, previously cut into pieces, were then subjected to the same trial, and all of them immediately sank; none of these portions had the slightest crepitous feel, nor did they emit air bubbles, when pressed; the pulmonary vessels appeared also to contain very little blood. There was no blood in the right side of the heart, but a small quantity was found in the left side: and the foramen ovale was open. We examined the mouth, windpipe, and gullet, and found all of them in a natural state. On proceeding to dissect off the integuments from

the scalp, we found on the left side of the head about two tea-spoonfuls of blood extravasated under the pericranium, (at that part of the head which felt puffy previous to dissection) there was also a little blood, though smaller in quantity, effused immediately adjoining this on the right side of the head. On removing the blood on the left side, we discovered a fissure fully half an inch in length, in the edge of the left parietal bone, close to the line of the sagittal suture, and near the posterior fontanelle. There was not the slightest depression of the bones at the seat of the injury; nor, on minutely examining the scalp, by shaving off the hair, could we detect any discoloration, or the slightest mark indicating a blow. The brain was rather in a soft state; there was no extravasation of any consequence upon its surface, or within its substance, but the extremities of some of the blood-vessels seemed to have given way to a trifling extent. From the size and general appearance of the child, there could be no doubt, that it was born at the full period of pregnancy, and it was also quite evident that it had not respired, not even feebly. The important question comes to be—What was the immediate cause of death? I suspect—simply the violent expulsive efforts of the uterus, forcing the child forward, and producing severe pressure on the cranium; or it is possible, a portion of the navel cord might have fallen down, and been compressed. At all events, there were no marks by which the woman could be accused of infanticide, nor, as afterwards appeared, of concealment of pregnancy.

The mother in her declaration said,—"That she was 28 years of age, was never married, but had borne three children, her last only was still-born, and that its birth took place about a month previous to her examination;—that she was in labour from Saturday afternoon till Tuesday morning about 11 o'clock; she was very ill from Monday night, but until that time she was only in a lingering way, and there was no person attending her during all the time except her mother, as she had no money to pay for a doctor or midwife; —that she knew her mother could do any thing that was required, as she had been with women before, and with herself when she had her other two children, assisted by neighbours;—her mother was the only person present at the time when the child was born; that it was laid in the bed, till the old woman hurried out for two neighbours."—These neighbours declared they never saw the child more. She farther said, that they kept the dead body till Thursday morning, having no money to pay the expense of burying it; —her brother made a box, into which it was put, and her mother carried off the box, saying, "she would bury it at the side of the Calder, till she got 'bawbees,' to bury it regularly;" but in the mean time it was accidentally discovered.

On the whole affair being properly investigated, and the precognition taken sent to the Crown Counsel, the opinion given was, that there ought to be no farther proceedings.

ARTICLE V.—*Cases of Abscess connected with the Urinary Bladder. Communicated by* DR SPITTAL, *Edinburgh.*

CASE 1. The following imperfect notes of this case may be interesting on account of the rarity of the attendant circumstances. The patient, J. W., a man aged thirty, while engaged in sinking a pit, was struck on the back by the falling in of a stone upon him. From this period, he lost all power of motion and sensation in the lower extremities, and could not retain his excretions. For about eight years he continued much in the same condition, the urine flowing incontinently; and he neglected the use of the catheter. His general health during this time remained good; but his lower extremities became very much emaciated, and, owing to his complete want of sensation, the extremities of his toes sometimes became a prey to mice, which left sanguinary evidence of their partiality. In the month of March, of the eighth year after the injury, after considerable uneasiness in the region of the bladder, an abscess formed in the hypogastrium, midway between the pubes and umbilicus, in the mesial line. This abscess gave way externally, as well as into the bladder, and along with pus, *all the urine flowed for seven weeks from this opening in the parietes of the abdomen*, the use of the catheter having been objected to. About the end of the above period, the urine flowed from the urethra as before, his general health having suffered very little during the continuance of the circumstances related. He lived for more than a year afterwards, and died rather suddenly, after suffering from acute pain in the head, followed by convulsions, delirium, and coma.

Examination of the body.—The spine projected, in a somewhat conical form, about the lowest dorsal vertebræ. The spinal cavity was found much diminished in its calibre, and the spinal cord, having been much pressed upon, was considerably atrophied at this point. The urinary bladder was enlarged and much thickened in its coats, and presented at its fundus a cicatrix corresponding to an external cicatrix, in the site of the abscess, on the surface of the abdomen, where the bladder had formed a firm attachment to the parietes. The cicatrices showed that the perforation, by the abscess, had occurred in the upper part of that portion of the bladder uncovered by the peritoneum. The ureters were irregularly thickened and enlarged; and the pelvis of both kidneys was enlarged, while the substance of these organs had become atrophied, but seemed otherwise healthy. The condition of the bladder, ureters, and kidneys described, probably resulted from the mechanical pressure of the urine on these parts; for that fluid would only find its way by the urethra, after full distension of the bladder, when most likely the valvular entrance of the ureters was rendered of no avail. This state of matters may also account,

perhaps, for the occurrence of the abscess itself; and the cause of death may have been intimately connected with the diminished eliminating powers of the kidneys in their atrophied condition, while, at the same time, labouring under a mechanically diminished supply of blood,—the most probable cause of the condition described.

On mentioning the features of this case to Mr Goodsir, that distinguished anatomist informed me of a very interesting and somewhat similar case, of which he was good enough to send me the notes which I subjoin.

Case 2. T. M., aged seventy, a carpenter, of robust constitution, had, from an early period of his life, been liable to retention of urine, after indulging in the use even of the smallest quantity of ardent spirits. These attacks of retention were invariably, and easily, relieved by a single introduction of the catheter. For the last three years of his life, he suffered from symptoms resembling those of stone, and, in particular, from pain at the point of the pelvis, bloody urine, &c. Latterly, he complained of tenesmus, and a feeling of stuffing in the rectum, and difficulty in emptying that bowel, as if from the presence of a foreign body in its neighbourhood. He also passed ammoniacal mucus by the urethra. The examination of the prostate by the rectum, nevertheless, detected no enlargement of that organ; and a stone could not be detected by the sound. All the usual expedients were adopted for the relief, both of the vesical and prostatic symptoms, but without the smallest benefit. He died exhausted, after passing from his bladder what appeared to be purulent matter.

An examination of the body revealed the cause of the symptoms. The urethra was perfectly healthy. The prostate was not enlarged. The bladder appeared thin, as if from distention. Between the fundus of the bladder and the umbilicus, in front of the peritoneum, behind the abdominal muscles, and apparently in the substance of the urachus, was situated an abscess of a conical form. The apex of the abscess extended to within an inch of the umbilicus; its base was rounded, and was attached to the fundus of the bladder, but separated from it by a neck or constriction of the peritoneum, presenting the appearance, when viewed from the abdominal aspect, of a second bladder, connected by an isthmus to the fundus of the first. The walls of the abscess were rough and floculated, and its cavity communicated with the bladder by an ulcerated opening, apparently of recent origin.

PART SECOND.

REVIEWS.

Encyklopädie der gessamten medicinischen und chirurgischen Praxis, mit Einschluss der Geburtshülfe, der Augenheilkunde und der Operativchirurgie, u.s.w., bearbeitet und herausgegeben, von Georg Friedrich Most. 8°, Leipzig, 1836–37.

Although the very valuable and comprehensive work of Dr Most has now been, for some years, published, we are not aware of the existence of any copy of it in this country, save that which we, ourselves, are so fortunate as to possess: nor do we recollect to have seen any notice of it in the various publications upon medicine which periodically issue from the British press. The work, consists of two thick and closely-printed octavo volumes, numbering, together, nearly two thousand two hundred pages, and containing many ably-written and most instructive articles on "Medical and Chirurgical Practice, Midwifery, Ophthalmic Medicine, and Operative Surgery." The leading terms are given in the Latin; the synonymes and explanations, in the German language. Several practical physicians and surgeons, of great celebrity and experience, appear to have been associated with the principal editor in the production of the work, which exhibits an exclusively practical character.

The physician, or surgeon, of this country, who wishes to improve his acquaintance with the medical literature of Germany, and acquire a correct knowledge of the modern systems of Medicine, Surgery, and Obstetrics, as taught, and practised, in that land of profoundly-thinking and philosophic men, cannot more profitably employ his money and his time, than in purchasing, and assiduously perusing, this "second enlarged and improved edition" of the elaborate *Encyclopædia* of Dr George Frederick Most. P.

Du Climat, et de Maladies du Brésil; ou Statistique Médicale de cet Empire. Par J. H. X. Sigaud, D.M. 8vo. Paris: 1845.

This valuable work is entitled to more than the very brief notice, for which only we can afford space. It contains a rich mine of materials for those who take pleasure in studying the Natural History of Disease, especially in its relations to varieties of circumstance, climate, and race. To this class of our readers we cordially commend the work of M. Sigaud.

The First Section is devoted to the Climate and Medical Topography of the country; the Second to its Medical Geography; the Third to Intertropical Pathology, and the Fourth, treats of the Medical Statistics, under which general term we find discussed, among other important subjects, those of the native Materia Medica, and Sanitary Legislation.

The Climate varies very much in different parts of the Brazilian empire; but speaking generally, it may be described as hot and moist. The following fact

is interesting as illustrating the general law, that *the salubrity of a locality is much more influenced by its prevailing winds, than by its latitude.* The author, after remarking, that upon the whole, the prevailing winds exercise a favourable influence upon the climate of the Brazils, goes on to say—that, "at Matto-Grosso, where the heat is intense, there occasionally arises a very cold south wind, which ever brings in its train, serious diseases of the respiratory organs." In our travels in many lands, nothing struck us more than the fact that *latitude* is comparatively but an unimportant element in the choice of climate. In recommending a suitable residence for the pulmonary invalid, we ought not to be mainly guided by the latitude of a country or even its general character for salubrity. We ought above all things to be sure, that we are not sending him to some place, the general suitableness of which will put him off his guard and make him unprepared for the sudden setting in of some cold, withering, inhospitable wind, to which it is periodically or occasionally subjected. Many a consumptive patient, after months of steady and rapid improvement, gained after some months of loitering among the pleasant towns and villages of the south of Spain, has been surprised on some unlucky day, in the streets of Cadiz, by one of those dry cold winds, which, at times, for days and weeks together, whistle through the streets, and penetrate with their chilly breath, the dwellings of that fair city. Ere a few days have elapsed, a smart attack of pneumonia, bronchitis, or pleuritis, has robbed him of all the health which he had regained, and probably at the same time his slumbering malady has been called into fresh activity, and forced to make one grand stride more in advance. Physicians are often most precipitate and inconsiderate in expatriating the victims of real or supposed tubercular disease. When the disease is in an early stage, and family circumstances do not stand in the way, a sojourn in Madeira or a cruise in the Carribean sea, may often with propriety be recommended and urged; but even in such cases, we believe, that as much benefit may generally be derived from an alternation of residence in certain suitable places nearer home, such as Torquay, the Scottish isles of Bute, or Arran, and the Cove of Cork. It is often safer and more effectual to advise the change of a few miles than of many degrees of latitude; and it is consoling to know, that in the vicinity of most of those cities where pulmonary disease commits its greatest ravages, there is to be found some comparatively clement shelter. The life of many an Edinburgh citizen has been saved by seasonable and occasional retreats to the southern suburb of Morningside, so admirably sheltered by nature from the east-winds which so mar the amenity and detract from the salubrity of spring in the Scottish metropolis. For weeks together the Guadarama mountains send down upon Madrid a piercing, icy, wind; then, the *pulmonia* (pneumonia) rages like a pestilence, and phthisical lingerers are swept in crowds from the hospital to the grave. Yet, within twenty miles of Madrid is the Royal village of Aranjuez, which, lying low, and being well sheltered from the north, enjoys an immunity from chest complaints, as compared with the adjoining capital.

When such facts as these are notorious, we would naturally expect that the lesson which they teach would be eagerly acted on by the philanthropist. We trust that they are beginning to tell on the public mind. London can now boast of its Hospital for Consumption, not erected amid piles of gloomy buildings and crowded thoroughfares, but in the free air of a pleasant suburb.

In the vicinity of many British towns such institutions are urgently required. In illustration, we may refer to Edinburgh. A properly constructed Hospital for the treatment of Phthisical disease, erected near Morningside, would be no great additional expense to the community, and one of the greatest blessings which could be bestowed upon the poor of Edinburgh, for from the plan on which the Infirmary is built, and the imperfect circulation of air in and around it, no diseases are treated there at such a disadvantage as those of the organs of respiration. We believe that the same remark will hold good with reference to most of the large Hospitals, not of this country only, but of Europe.

But we must return to M. Sigaud.

It is a remarkable fact that *Yellow Fever, Cholera, and the Plague, have*

never visited the Brazils, in spite of the extensive communication which exists with the countries where they prevail. The author, we think, correctly, attributes the absence of these great scourges of tropical climates, to the healthful breezes which blow round the coasts, rather than to the strictness or propriety of quarantine regulations. Diseases which are unequivocally contagious, such as *Small-pox*, *Scarlatina*, *and Ophthalmia*, are often imported by the crews of ships, and commit much havoc.

We are struck to observe that phthisis and intermittent fevers are the two diseases from which there is the greatest mortality; because from some recent observations by Boudin, reported in this Journal, as well as from other facts, we were led to believe, that there is a very decided antagonism between these diseases. We are inclined to think that if we had the exact statistics on this point, of the mortality in the special localities of the Brazils, we would never find phthisis and intermittent fever presenting themselves in any one place, as the two most deadly and prevalent maladies. It is in consequence, probably, of M. Sigaud giving general bills of mortality for disease for the whole empire, without reporting on each peculiar region of it, that a statement comes out, apparently opposed to those of Boudin.

We have not attempted to give an analysis of this important work. Our desire has simply been to make it favourably known to our readers, by giving one or two specimens of the fund of information which it contains. J. R. C.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

Cancerous Communication between the Stomach and Colon. By William Waters, M.D., of Fredericktown, Maryland, U. S.

V. D., aged 65 years, corpulent, and of temperate habits, was attacked in 1843 with symptoms of dyspepsia, which were frequently present till the 10th January 1844, when hematemesis occurred. The blood was of an arterial colour; it was discharged copiously *sursum et dorsum*. Vomiting and colicy pains recurred occasionally for several weeks. On one occasion the matter was puriform. The symptoms became aggravated; and his corpulent person was reduced to a mere skeleton. He died on the 26th December 1844, being nineteen months after the first symptoms of dyspepsia.

Autopsy 24 hours after death.—A tumour felt distinctly a short time before death, between the ensiform cartilage and umbilicus, and more on the right than the left of the median line, was not nearly so distnct as during life. The omentum was considerably absorbed and diseased. Stomach :—the pylo-

ric end was in a schirrous state for more than two inches above the pylorus, and was in some places more than an inch thick; the whole inner surface was ulcerated; the stomach was adherent to all the adjacent parts, such as the liver, for an inch square; and to the colon, where there was a perforation of the stomach and transverse colon, about half an inch in diameter, with schirrous edges. The mesenteric glands were indurated generally. The other abdominal viscera were healthy. The lungs were healthy. The surface of the heart was covered with coagulable lymph. Pericarditis had existed in this case, as in every other which I have witnessed of organic disease of the stomach.—*Philad. Med. Examiner*, for April 1845.

Menstruation in an Infant. By W. H. Whitmore, Esq. Surgeon, Cheltenham.

Among the family of Mrs M. was a female child, who, from a few days after birth, had the catamenia regularly, at periods of three weeks and two or three days, until she had attained the age of four years and some months, when she died, after an illness of forty-eight hours. She was attended by Dr Christie, who for more than a year before her decease, had satisfied himself of the fact. The detailed particulars were communicated to me by Dr Christie, by whose permission I had an opportunity of witnessing the examination of the body.

When laid out for dissection, its great development was very striking—equalling that of a girl 10 or 11 years of age. The mammæ were unusually large, the mons Veneris collapsed, but well covered with hair, the labia pudendi sparingly so, though of unusual size for a child.

She was of a fair complexion; and her hair, which was of a dark brown colour, was very plentiful. In the absence of her periodical ailments, she would enter into all the amusements of children of her own age; but when she was indisposed, she was exceedingly reserved, and would withdraw from all her playful occupations. When interrogated by familiar acquaintances as to her reason for absenting herself on these occasions from the amusements of other children, she would answer that she was indisposed; but when the same question was proposed to her by those with whom she was not intimate, she would merely blush, without making any reply. There were other young females in the same family, but in them the function referred to manifested no irregularity.—*Northern Journal of Medicine* for July 1845.

Case of Hernia of the Stomach, Transverse Colon, and Large Omentum through the Diaphragm into the Chest. By Dr Battalia.

The author was requested to visit a man, aged 29, of a robust habit, but addicted to drinking. On the previous evening he had indulged to a monstrous excess, which was immediately followed up by an equal excess in venereal pleasures. To this cause the patient attributed his disease. When first seen by Dr Battalia, his face was red and livid, he had insatiable thirst, with difficult respiration; the tongue was coated, and the breath fetid; there was almost constant hiccup, distressing nausea, and vomiting of matters which had very much the appearance of being stercoraceous; the pulse was frequent, irregular, and somewhat depressed; heat of skin below the natural standard; obstinate constipation, and a feeling of heat and slight pain in the right iliac region. From all these symptoms it was conjectured that the case was one of strangulated hernia; but no tumour could be discovered in any part of the abdomen; there was a cicatrix on the right side of the chest, which the patient stated was the result of the stroke of a sabre received four years previously. It appeared, however, to be entirely confined to the integuments. Notwithstanding the most energetic treatment, the patient became rapidly worse, and died within 48 hours of his first seizure.

Dissection.—The body exhibited a slight degree of tension over the region of the epigastrium and the two hypochondria; the rest of the abdomen was flat, and its parietes retracted towards the vertebral column, against which they

could easily be forced. (This appearance was observed during the life of the patient.)

Abdomen.—On opening this cavity, the small intestines and peritoneum were found to be of a dark livid red colour, in some points nearly approaching to gangrene. There were some old adhesions between the peritoneum and the viscera, especially the liver, which was larger than usual, its small lobe extending from the hypogastrium (epigastrium?) to the left hypochondrium. There was a small quantity of dullish red serum. It was then observed, that the stomach, large omentum, and transverse colon were wanting, these viscera had passed through an anormal opening in the diaphragm into the thorax.

Chest.—The thoracic cavity having been laid open with great care, there was found in it the entire stomach enormously distended, and completely covered by, and enveloped in the large omentum, and nearer the diaphragm, the transverse colon. The right lung was compressed towards the superior and internal part of the cavity. The heart and other thoracic viscera, with the exception of the right lung, were perfectly sound; a small quantity of dark red serum, however, was found in the right pleura. The protruded viscera exhibited traces of the most violent inflammation; their colour was similar to that of the other intestines and peritoneum. On opening the stomach, its inner surface was also found to be of a livid red, and covered here and there with patches of a viscid yellow fluid.

The protruded viscera were so completely strangulated in the opening of the diaphragm, that they could only be reduced with the greatest difficulty after the complete evacuation of their contents.

The opening, when thus laid bare, appeared of an oval form, with irregular and somewhat hardened edges, it was situated transversely above, and somewhat to the right of the opening of the œsophagus, and extended to the tendinous centre, which was a little torn. Its transverse diameter, which was the largest, measured three inches and a-half; its longitudinal, two and a-half. Dr Battalia conceives the above case to be a rare example of *spontaneous* rupture of the diaphragm. The accident, according to him, had occurred during the violent efforts in coition. During these efforts, the diaphragm, contracting on the over distended stomach, had, in consequence of the resistance of the latter, become ruptured; and, as a result of the subsequent continuation of these efforts, the abdominal viscera had been forced through the opening, and there become strangulated. Can this rupture be regarded, he continues, as one of long standing, and can it be referred to the period when he received the stroke from a sabre four years previously? He does not think so. As already stated, the cicatrix was superficial, and only involved the integuments. Could it have been attributed to this, the patient would not have passed the four years in a state of perfect health, but, on the contrary, could not have failed to suffer from serious derangement of the respiratory, circulatory, or digestive functions. Besides this, the edges of the perforation would have been found callous, smooth, and in part cicatrised, which was not the case.

In endeavouring to determine whether death ought to be regarded as the result of the gastro-intestinal inflammation, or the rupture of the diaphragm, the author does not hesitate to attribute it to the former of these causes. Numerous cases, however, are recorded, where either a traumatic or congenital rupture of this muscle has been quite compatible with existence; all the traces, on the other hand, of inflammation and gangrene, were found in the viscera and peritoneum. If the rupture of the diaphragm, therefore, had any part in producing the fatal result, it was only by causing strangulation of the bowels, and thus adding to the intensity of the inflammation.

Without altogether denying the correctness of the explanation regarding the mechanism of this rupture, offered by M. B., we cannot, on the other hand, avoid stating that the solution of the problem does not appear to us quite so clear as he seems to think. It is no doubt probable the rupture may have occurred at the period when the symptoms first became manifest. But have we not seen cases of congenital diaphragmatic hernia produce no ultimate derangement in the state of the health? (See *Gaz. Méd.* 1843, p. 192.) And have we

not, likewise, seen cases where the same benignity of symptoms followed and continued for many years, after a similar displacement occasioned by a traumatic cause! (See *Gaz. Méd.* 1843, p. 776.) Could the patient, the evening previous to his death, give such an exact description of his past state, as to render legitimate an explanation which would only be valid, provided such description rendered an opposite explanation of no value? It is denied that the stroke of the sabre received four years previously had any connection with the state of the diaphragm. But whence originated, then, those *old adhesions, chiefly of the right side*, met with on dissection? It is affirmed by Dr B., that if the perforation were of an old date, the edges should have been found smooth and callous. But in the first place, in the account of the dissection (which we have given *verbatim*) no mention is made of the state of the edges, and next, supposing that they had exhibited an uneven and torn appearance, might not this new condition of the circumference of the ancient opening, have been produced by the recent passage of so large a mass of viscera, and with so much force as to cause strangulation? Whatever may have been the cause or the period of the rupture of the diaphragm, this much, at least, appears to us certain, that the strangulation was of recent date, and played an important part in bringing about the fatal result.

In fine, we affirm nothing; and we do not believe the details of the case will permit any one to be more explicit than we ourselves have been.—*Giornale delle Scienze Mediche della Societa Medico-Chirurgica di Torino*, as quoted in *Gazette Médicale*, 20th Sept. 1845.

SURGERY.

Observations on the Causes of Excoriation of the Nipples, and Inflammation of the Mammary Gland in Primiparæ, and the most Efficacious Preventative Treatment. By Dr Rossi.

Looking merely to the title of the paper, we should be led to infer that the researches of Dr Rossi were confined to fissures and inflammation of the breast occurring in primiparæ; in reality, however, they apply to all recently delivered females. Special mention is made of primiparæ, merely because they are more subject to the affection than those who have borne several children. Dr Rossi having been struck with the predominance of this affection in the former, and desirous of placing it beyond doubt, kept an exact account of all the circumstances under which the occurrence manifested itself in the cases which fell under his observation. The following statement shows its relative frequency in women who had borne children for the first, second, and third time.

Out of thirty-seven primiparæ who endeavoured to suckle their children, twenty-two had excoriations of the nipple during the first month, two in the second, and a fourth in the sixth. Ten were affected with inflammation of the mamma. Out of twenty-nine women delivered for the second time, four had fissures or ulcerations during the first month, one in the second, and one in the fifth; one only had mammary engorgement. Out of twenty-one women delivered for the third time, there was no case of inflammation of the mamma, and only twice small fissures occurred during the second and fifth month.

In one of the patients of this latter category, Dr Rossi for the first time observed a circumstance which led him more exactly to appreciate the true cause of the disease. The child of this woman was affected with aphthæ of the mouth, and she assured Dr R. that it was only after the appearance of these aphthæ that she had begun to suffer from fissures. On examining the mouth of the child, he discovered, along the edge of the tongue, several rounded ulcers. Reflecting afterwards on the transmissibility of diseases of the mucous membrane, he came to the conclusion that the disease originated primarily

from the mouth of the child. An attentive examination of the mouths of all those children whose mothers complained of fissure of the nipple, showed not only the justice of this deduction, but likewise the constant presence of ulceration or inflammation in that cavity; seventeen cases of this kind are detailed in the notes. On the sixth, eighth, tenth, or twentieth day after birth, seldom later, the point and edges of the tongue were observed to become red, there were also noticed down its centre two longitudinal streaks of a whitish or yellowish colour. On looking at the tongue more closely, small papulæ were discovered, and at a later period, ulcers of a narrow oval shape, or lengthened out to a mere fissure. At other times the tongue was completely covered with small white spots, overlaying small ulcers. Simultaneously with these, or very shortly after, the mother began to complain of heat in the nipples, after which they became red, then excoriated and cracked.

It is generally admitted that the pressure, humidity, and dragging, with which the act of sucking is accompanied, are the causes of excoriations of the nipples. But these are not the true agents in the production of the disease. In cases of retraction of the nipple, and where, consequently, the act of suction is painful in the highest degree, Dr Rossi has never witnessed the occurrence of either excoriation or fissure, and the reason, he adds, is very simple, viz. that the mouths of the children were healthy. This conjecture has been confirmed by observations of another kind. He removed children affected with ulceration of the mouth, from their own mothers, and applied them to the breasts of healthy women, who had already nursed several children. Fissures were the consequence; the complaint, however, was milder, and of shorter duration. Women who had thus contracted the disease, occasionally transmitted it to their own children. In some cases in which fissure had become developed in the mother, he could discover no ulceration in the mouth of the child; he believes, however, that in these cases the ulcer had either become cicatrised, or being simple and very small, had escaped detection.

The development of this ulcerous affection of the mouth, in new-born children, is a well-established fact. And it is easily accounted for, when we consider, that at that period the normal performance of the functions of the intestinal canal, is very slightly removed from a state of phlogosis, and that either a too great quantity, or an alteration in the state of the milk, are often sufficient to induce this inflammation, and that inflammation so excited very readily extends from one portion of the digestive tube to another, more especially to the mucous membrane of the mouth. Practitioners are moreover agreed, that indigestion is one of the chief causes of aphthæ.

From the continuity of tissue between the lactiferous ducts and the parenchyma of the mammary gland, it was natural to suppose that inflammation of the latter was a mere consequence, or effect, of the local affection of the nipple. It was only a conjecture, however. But it obtained more weight in the eyes of Dr R. from the following observation:—In some of his patients he had frequently occasion to notice, that as soon as excoriation commenced in the nipple, the milk was excreted with difficulty; at a more advanced stage of the disease, pressure alone was not sufficient for its expulsion, the application of the child was necessary. Lastly, where the fissures were deep, or the ulcers large, not a drop could be evacuated either by pressure or suction. The lactiferous ducts had then become impermeable, almost obliterated; and, if to this we add, that pressure over their course was painful, then it is evident that the question is not one of contraction due to nervous irritability, but of real inflammation propagated from the nipple to the ducts, and from these again, at a later period, to the mammary gland itself, producing partial or general *mammitis*, followed or not by suppuration. It is hardly necessary to state, that the mammitis generally attacks that breast in which the fissures have occurred.

From these details, then, the treatment of fissures, excoriations, and ulcers of the nipple in recently delivered women, is not merely curative, but may be rendered prophylactic. Attention should be devoted to the state of both mother and child. As regards the latter, if there has been no stool during the first or second day, a purge of the syrup of chicory, rhubarb, or manna ought to be

administered, so as to clear out and relieve the primæ viæ. The state of the mouth should also be attentively watched, and as soon as any white or red spots are perceived, it ought to be frequently washed with barley water, with the addition of some honey of roses, vinegar, or lemon juice. Special attention should be paid to have the mouth of the child well washed every time it is put to the breast, in order to prevent the saliva or mucus contaminating the nipple. As regards the mother, she ought, with as little delay as possible, to put the child to the breast, the colostrum being the best purgative that can be administered. Before applying the child, she ought also to anoint the nipple with a little almond oil or sweet butter; and after its removal, it ought to be well washed with the acidulated lotion above-mentioned. These means ought never to be neglected; a single omission may induce contraction of the disease.

By careful attention to the above means, Dr Rossi has the satisfaction of warding off this painful disease in many women.—*Annali Universali di Medicina*, as quoted in *Gazette Médicale*, 20th Sept. 1845.

Account of a Specimen of Partial Fracture of the Neck of the Thigh-Bone: and Remarks on the Proper Source of Nutrition of the Head of the Bone. By T. Wilkinson King, Esq.

Surgeons are aware, that the inferior part or buttress of the cervix femoris, or that part between the head and the trochanter minor, is by far the most solid. All the super-incumbent weight is directed on this part, and thus, it would seem, its comparative hyper-nutrition is excited or induced, it happens, however, that, with general senile atrophy, and loss of elasticity and agility, this part is particularly prone to give way; the head of the bone sinks into the dense shell, and the inferior fragment is driven up into the cancelli of the head. At the same time, less violence is done to the thin elastic shell of the upper part of the neck of the femur, or that between the shell and the trochanter major. Possibly it is not a very rare event that in this way fracture extends through somewhat more than half of the neck. Considering the fact of partial fracture of the neck as sufficiently established,[1] I wish to connect it with the peculiar mode of nutrition of the head of the femur. The artery which supplies the head of the femur, while it constitutes an epiphysis, is persistent through life. It is a large terminal branch of the internal circumflex artery, which enters a foramen a little below and behind the highest point of the neck of the femur. After this it curves over the denser layer of cancelli, left by the union of the epiphysis to the shaft, directing its course beyond the insertion of the round ligament, to which, I doubt not, it furnishes nourishment.

Now, it is remarkable, that this vessel occupies the situation of the greatest immunity from violence; and that if only a little periosteum about it escape division when complete fracture occurs, it may be left entire to sustain that which I think could scarcely live without it. This consideration seems corroborated by all the examples I have examined of ligamentous union after fracture at this part. Whether there be a re-union by solid ligament, by a few scattered bands, or by a kind of capsule and cell, (all rare events), I find the course of this vessel apparently uninterrupted.

It is needless to say, that these observations apply to the doubtful cases of bony re-union of the cervix femoris. I would add, there may be more reasons against bony union at this part than have yet been considered. The fracture is often as much the result of atrophy as of violence, and the atrophy proceeds after the fracture has taken place. The position of the head in a good variety of supposed specimens of united fracture, indicates the course of alteration I have pointed out; the pit of the head, instead of presenting upwards and inwards, faces inwards, or inwards and downwards; evidently showing that the upper connections or relations of the head have been much less changed than the

[1] See cases by Mr Bransby Cooper and Dr Cullen.

lower or inner. Nature can but feebly, and rarely, and perhaps never, make any efficient effort to re-unite fractures which separate the head of the femur from its basis.—Abridged from *Guy's Hospital Reports* for November 1844.

FISH-HOOK REMOVED FROM THE ŒSOPHAGUS, WITHOUT OPERATION. REPORTED BY A. R. KILPATRICK, M.D., Woodville, Miss.

In the summer of 1837, Mrs —— was enjoying her usual *siesta* in the afternoon of a warm day, on a pallet spread upon the floor, in a cool part of the house; and, while she was lying on her back, sleeping pleasantly, no doubt dreaming of past pleasures, her grandson, a little urchin of three or four summers, was playing about the house with a fishing-tackle complete,—pole, line, and hook. When he discovered the old lady with her mouth widely distended, he thought it a fine opportunity "to catch a fish." Accordingly, in order to effect his purpose, he cautiously deposited the "barbed hook" in his granddame's open mouth. The titillation caused her to wake suddenly; and, as her mouth was dry from exposure, she closed it, and swallowed the hook, two or three inches below the uvula. The whole family was soon assembled by her cries, *except little Charley*, who dropped his pole in a panic, and—in provincial phrase —*mizzled*.

Some gentle efforts were essayed to remove the hook by the patient and the family; but being apprehensive of fixing the barb in the throat, they ceased all efforts, and despatched for Dr E. Leroy Antony, who resided in the neighbourhood. He found that the hook was not fastened in the flesh; and thus proceeded to remove it without operation. His plan was to cut off the line, within a foot or two of the mouth of the patient; then to drill a hole through a rifle bullet, and drop it over the line down on the hook. In order to fix the bullet on the point of the hook, and maintain it firmly in that position, a reed was procured, the joints punched out, and then passed down over the line, and pressed firmly over the bullet. In this manner, the hook, bullet, and reed were all very easily withdrawn at once, without injury to the osophagus or fauces.—*New Orleans Med. Journal*, as quoted in the *Philad. Med. Examiner*, for April 1845.

MIDWIFERY.

CESARIAN SECTION, PERFORMED WITH SUCCESS TO MOTHER AND CHILD; OBSTINATE OBSTRUCTION OF THE BOWELS IN THE MOTHER—CURE. BY DR LONG, Surgeon to the Civil Hospital, Toulon.

Though cases of Cesarian section with happy result both to mother and child, are by no means rare, I believe the following will be found interesting, in consequence of some unexpected circumstances which delayed the cure of the mother.

Madame B——, aged 39, did not menstruate till several years later than the usual time, and has always done so imperfectly and irregularly. She was married fifteen months ago, and became pregnant. Her condition presented nothing remarkable; till having arrived near her term, she consulted a midwife, who, apprehending some difficulty in the approaching delivery, recommended an accoucheur to be called in.

I saw the patient for the first time on 10th June 1845. The following are the results of the examination I instituted; height four feet (1 metre, 30 centimetres,) inferior extremities small and imperfectly developed, especially the pelvis, which was so small, and so much deformed, that the pelvimeter was entirely useless in ascertaining the dimensions of a cavity so much altered. On introducing the finger the antero-posterior diameter at the brim was found to be 1 1-10th inch (3 centimetres.) The abdomen very prominent, formed a

species of pouch, which, lying upon the pubis, covered the thighs, and contained all the organs usually lying in the pelvis. The patient exhibited symptoms of rickets, otherwise her health was good. After this examination, delivery in the natural way appeared to me impossible, so I warned both the patient and her family that an operation might be necessary.

Ten days afterwards I was again called to see her. There were pains, at intervals, in the loins and hypogastrium, which continued 24 hours, and then ceased. There were similar pains for several days, but labour made no progress, the finger with difficulty dilated the os uteri.

On the night between the 29th and 30th June, similar pains again recurred, and lasted several hours. It appeared to me that the patient had passed her term by nearly 15 days, the pains of labour had commenced four times without any apparent result; the patient and her family now consented to the operation, and believing that the time had arrived, I called into consultation several of my brethren, the result of which was, that we agreed,

1*st*, That the patient was pregnant;

2*d*, That the term of delivery was probably passed;

3*d*, That delivery by the natural passage was impossible;

4*th*, That only by the Cesarian section could the extraction of the child be effected; and,

5*th*, That it ought to be done immediately, as the pains had entirely ceased.

I commenced the operation by an incision below the umbilicus extending to 3½ inches (9 centimetres,) along the median line, by means of which the integuments, aponeurosis, muscles, and peritoneum were divided, and the uterus brought into view; the latter exhibited a peculiar motion, and appeared as if revolving on its axis. By a second incision of the same extent as the first, but performed with more attention and caution, the uterus itself was opened as well as the coverings of the fœtus. The liquor amnii having escaped, the child was seized by the feet and extracted, crying loudly; it was a male, and so large and full of life, that all my colleagues concurred in the belief that it had passed the nine months.

After the operation the edges of the wound were brought together by means of interrupted suture, and covered with pledgets of lint, and a bandage applied. During the operation the patient appeared to suffer no more than what usually occurs in a difficult labour.

For the first thirteen days every thing was satisfactory, the lochiæ appeared the night after the operation by the vagina, without any artificial means having been used to induce them. The milk fever was moderate; some slight pain of the abdomen had entirely disappeared; there was copious but healthy suppuration from the wound, and the sutures had been removed on the fifth day. The child continued to thrive, and was put to nurse. The patient was allowed soups and light food, and was able to sit up a few hours during the day. Two tumours, however, had arisen in the abdomen in the situation of the iliac fossæ; they were rather hard, of the size of a nut, and slightly painful to the touch; they were believed to be indurated ovaria, and they increased in size daily; the right, situated a short distance from the wound, became the seat of obscure fluctuation. There was an abundant escape of pus, one day, from the wound, and a fistula became established in the parietes of that side. On the 13th July, the 14th day after the operation. The patient was still in the most satisfactory state, the pulse was natural, tongue clean, and bowels regular; for two days, however, she had had towards evening some heat of skin, flushing of the face, with quick pulse. On the evening of this day, the abdomen became tympanitic, but there was no pain on pressure; there were frequent borborygmi and slight diarrhœa which afforded some relief, but what is most remarkable, the tumour of the left side disappeared.

On the 14th, the abdomen was much distended with gas; some knuckles of intestine, in the shape of undulated folds, were visible under the skin; pressure with the hand caused borborygmi, but this was only observable in that portion of the abdomen situated above the tumour in the right iliac region, with the exception of the right hypochondrium, so that the intestine appeared impermeable

or obstructed in a portion corresponding to the tumour. The patient was oppressed, but experienced temporary relief from the eructation of quantities of gas; during the day she had frequent nausea and vomiting; from this period the passage of fecal matter was stopped. Low diet, infusion of aniseed, soup, and an injection were prescribed.

15*th*. Passed a tolerable night; the same symptoms, however, continue. The patient was easy, and rose through the day. (Same prescriptions.)

16*th*. Tympanitis and eructations continue. Nausea during the night, soon followed by vomiting of a brown fluid, in which floated some shreds of mucus, of a green colour, resembling chopped parsley. No stool. Tumour diminishes, and seems continuous with a knuckle of intestine which the fingers can easily grasp.

17*th*. Same state; no vomiting; has a desire to eat. (Barley water, soup, injection of milk.)

For some days, the same symptoms continued; it was evident, however, that there was less nausea and vomiting when she was restricted to low diet. But her strength continued to diminish, and she was confined to bed. She had occasional syncope, and one day, following a meal of light soup, there was recurrence of vomiting, with a fecal smell. At that time there was heat of skin, with a small and frequent pulse, and sweating; this ephemeral state of excitement was followed by depression. Two lumbrici were found in the matter she had vomited, and in that passed after an injection. For several days I had entertained no doubt that the intestines were obstructed or obliterated, either by indurated feces or worms, and that the point of interruption corresponded to the tumour, the seat of which must be about the lower end of the small intestine. Two of my colleagues being again called in, coincided with me in this opinion, and we now determined to use more energetic purgatives. An ounce of castor oil was given, but it was vomited, and produced no effects; 12 grains of colocynth were then applied by the endermic method, and produced two scanty stools. Calomel was then given in half scruple and scruple-doses for several days in succession; these were speedily followed by abundant evacuations of hardened greenish matter, after which the tumour diminished in size, and disappeared entirely in the course of ten days; all the other symptoms likewise disappeared, and the patient completely recovered.

July 29. The wound entirely cicatrised; and on the 5th August, 36 days after the operation, the patient was able to follow her usual occupations. At this date, 8th September, nothing has occurred in any way to derange the health either of mother or child, and both are as well as could be desired.—*Gazette Médicale*, 13th September 1845.

FORENSIC MEDICINE.

Trial for Rape at the Glasgow Winter Circuit.

Hugh Jackson was accused of rape, in so far as he did, upon, or near the road leading from the quarry to Tuphall house, and in or near the burgh of Hamilton, in the county of Lanark, wickedly and feloniously attack and assault Janet Hunter, a girl about 14 years of age, and did by violence throw her down, and struggle with her, and did raise her petticoats, and lie upon her, and did have carnal knowledge of her person forcibly, and against her will, and did ravish her.

Janet Hunter examined.—I am 14 years old. On Monday evening, the 1st of May 1843, I was sent out to close the window-shutter; it was pretty dark, and the gas had been lighted for some time. When I went out, a man, I had previously seen on the street, and had heard receive the name of Hugh Jackson, was passing from the town in the direction of the quarry. I had never spoken to the man. He took me round the waist, and asked me where I was

going,—I said, "nae place." He kept me walking away down the street, and I wished to turn, but as he was tall and stout, he kept me walking down the quarry road and up Tuphall road, till we came about half way from the quarry to Tuphall house, when he proposed that I should go over some steps into a park with him, which I refused to do. I became alarmed, and ran away down the road, but he followed and soon seized me. He wished me to go back, and I refused. He then forced me backwards down upon the road, and commenced taking up my petticoats. "I focht with him," and tore his hair, screamed, and repeatedly called out murder, but he never minded, and without saying a word, he struggled to effect his purpose. He did not, by his hands or otherwise, attempt to prevent my cries, and he did not strike me. He clasped both his arms round my neck, and with his nails, as I think, he injured my neck by scratches. He struggled with me for about ten minutes, and he entered my body with his private parts, by which he hurt me very much, and I bled at that place. I cannot say whether he got his will of me, but he rose off me at last of his own accord, and went up the Tuphall road, without saying a word. I rose and went towards home. I met my mother and sister coming for me, and when I reached home, I told them all that had happened. I am certain I was not out of my own house more than half-an-hour. I struggled against him to the utmost of my power, and notwithstanding every resistance on my part, he effected his purpose by force and violence. I was examined by Mr Millar, surgeon, that night, and by him and Dr Wharrie next day.

Janet Bell or *Hunter*.—The mother of the preceding witness, corroborated her testimony on every point.

Isabella Hunter.—Recollected of her sister going out to shut the window. Went along with her mother to look for her. Was told all that had happened. Went next day to the spot where my sister said she had been ill-used. The place was all "hashed," partly on the road, and partly on the grass.

Several witnesses were called, and corroborated the minor parts of the evidence of the principal witness, and proved that the prisoner had fled from justice, and that his place of concealment was not discovered till the 26th of April 1845.

Medical Reports.

"*Hamilton*, 24*th June* 1843.

"I hereby certify that I saw Janet Hunter, daughter of William Hunter, Quarry-road here, on the first day of May last, at a late hour: That I found her in a state of the greatest excitement, approaching nearly to distraction: That I examined her minutely, and discovered many bruises on the back, shoulders, neck, and arms: That the external organs of generation were surrounded with coagulated blood: That the labii internæ were swollen, and a portion of the right side of the vagina lacerated; and that the other parts of these organs had sustained much injury. (Signed) "James Millar, Surgeon."

"*Hamilton*, 2*d May* 1843.

"I hereby certify, that, in obedience to appointment this morning, in company with Mr James Millar, surgeon, I carefully inspected the injuries sustained by Janet Hunter, daughter of William Hunter, residing in the Quarry-road here.

"I found a mark about two inches in length, and one inch in breadth, underneath the ear, on the right side of the neck, where the skin was very slightly scratched or abraded; and there were a few scratches on her back, over the right shoulder, and one more severe, about an inch in length, on the outer part of her right arm, midway betwixt the elbow and the wrist-joint.

"I examined the organs of generation, and found the parts around the entrance into the vagina were discoloured and swelled, particularly towards the right side; and she complained of the parts being painful. I was informed she had washed herself previous to my examination; but I observed there still was a slight bloody ichor in the depending parts of the vagina.

"The girl's mother produced a shift, which she said was that her daughter wore when assaulted, and it was marked with blood in several places. Judg-

ing from this inspection, I am of opinion that Janet Hunter had recently had carnal connection. (Signed) "Jas. B. Wharrie, M.D."

The prisoner was found Guilty; and the libel having been previously restricted, he was sentenced to transportation for 15 years.

The chief interest connected with the above case is the fact, that the crime was committed without the female being disabled by violence or otherwise. The prisoner was a stout man, the female a slender person.

Poisoning with Arsenic.—Cumberland Assizes.

Mr John Graham, aged 76, resided at Grinsdale, near Carlisle, with his wife. On Thursday the 15th of May last, after eating at supper a portion of some "*yeasted cakes*," made by Mrs Graham that morning, both were taken ill with vomiting and purging, and several other persons who subsequently tasted the same cakes were similarly affected; but they all recovered except Mr Graham, who died on the Tuesday (May 20th) following.

As they had both, together with their eldest son, John, who chanced to dine with them that day, been similarly affected some months before, after eating a "potatoe-pot" also made by Mrs Graham, an inquest was held on the body, and a post-mortem examination made by Mr Elliot and Dr James, who subsequently, in conjunction with Dr Cartwall, analysed portions of the body, and also the remainder of one of the cakes.

The following is the report of the medical gentlemen:—

Thursday, May 22. Post-mortem Examination. *Externally.*—Considerable discoloration of the depending part sof the body, and signs of commencing putrefaction.

Internally.—Brain healthy.

Chest. Lungs.—Right one shrunk, and much smaller than the left, apparently from a previous attack of pleurisy. A great number of old adhesions of considerable length. Left lung healthy, though a few slight adhesions existed there also.

Heart.—Healthy in every respect, and containing a small quantity of blood.

Œsophagus.—Considerable inflammation of the mucous membrane of the left side of the pharynx, or upper part of the gullet, which was of a red colour, and became much brighter on exposure to the air. There were also several dark spots, caused by blood effused below the mucous membrane, as was seen on removing that membrane. The same appearance continued the whole length of the gullet, though in a much slighter degree.

Stomach.—Its inner surface, near the cardiac orifice, (or where the gullet joins it), was of a uniform redness, and presented the appearance of a severe inflammation having existed before death. On exposure to the air, the redness became much brighter, and more distinctly marked. The redness was of a triangular form, with its base next the termination of the gullet. It extended along the lesser curvature of the stomach, gradually tapering to a point close to the pylorus, or other extremity of the stomach. On removing the mucous membrane, which covered the inflamed part, morbid redness was visible, along with several small patches of effused blood. The discoloration along the larger curvature of the stomach was slight, though here several small spots of effused blood were also seen.

Duodenum, or first portion of the small intestine joining the stomach.—Marks of inflammation were also here present, with numerous spots of effused blood about the size of split peas in the course of the blood-vessels, as seen on removing the mucous membrane. The marks of inflammation were seen both in that membrane and in the tissues below on its removal.

Rectum slightly vascular, but not more so than might have been expected at his age.

The other abdominal viscera did not present any appearance requiring comment.

Chemical Analysis. *The Cake.*—1. An ounce weight of the cake was cut into pieces, and boiled in six ounces of distilled water with two drachms of muriatic acid. Three small bundles of the *finest* copper wire were successively introduced and boiled in this liquid. On their removal, the bright colour of the copper was found to have been completely converted into an *iron-grey.*

2. A comparative experiment was then made with the same quantity of muriatic acid, distilled water, and copper wire. After boiling for the same length of time, the copper was removed unchanged.

3. The iron-grey wire, having been previously carefully washed and wiped dry, was then introduced into a test tube, and heated to a low red heat. A white ring sublimed, and the copper wire lost its iron-grey colour. On examining the white ring through the microscope, an abundance of crystals with equilateral triangular facets or surfaces were distinctly seen. About a drachm of distilled water was then introduced into the tube and boiled till the white ring was dissolved, the copper wire having been previously removed. When cold, the three following tests were applied:—

1. On the addition of the ammoniaco-nitrate of silver in solution, there was a well-marked yellow curdy precipitate, which soon became brown.
2. On adding a solution of the ammoniaco-sulphate of copper, a slight green colour resulted, not very distinct at first, but whic , on standing, deposited a well-marked green precipitate.
3. On passing a few bubbles of sulphuretted hydrogen gas through the remainder in the tube, a bright yellow was immediately the result.

The liquid in which the cake had been boiled was then filtered, and a stream of sulphuretted hydrogen gas was passed through it. The excess was driven off by boiling and the liquid filtered. A very copious orange-coloured precipitate which had settled in the bottom of the vessel, was carefully collected and dried. A portion of it was then heated in a test tube with twice its bulk of black flux, which had been previously carefully dried. A beautiful metallic ring was sublimed—brilliant, shining, and with a distinct dull granular surface internally.

The Flour.—This was submitted to the same process that the cake had undergone. There was *no deposit* upon the copper wire, which came out untarnished.

Butter.—The same steps were gone through as with the cake and flour. The copper wire came out untarnished.

Contents of the Stomach.—These were filtered, two drachms of muriatic acid added, and copper wire boiled in the liquid. No change was produced in the copper wire.

Mucus scraped from the Stomach.—This was dried on filtering paper and put into a test tube with wood charcoal, and heated. No result could be obtained on account of the empyreumatised moisture which obscured the tube.

The Stomach.—This was cut into pieces and boiled in a gill of distilled water, with half an ounce of muriatic acid. The liquid was then strained and boiled with half an ounce of acetic acid to deposit the animal matter. After straining, this was again boiled with animal charcoal (purified and recently incinerated) for the purpose of clearing the liquid. Copper wire, boiled in this, became partially coated with grey. On heating this wire in a test tube, a white crystalline ring was sublimed, in which numerous octohedral crystals and triangular facets were distinctly seen.

The Liver.—About one-third, cut into small pieces, was boiled in eight ounces of distilled water, with two ounces and three quarters of muriatic acid. Copper wire was boiled in this. It was partially coated with a grey colour. After washing and drying, it was heated in a test tube. There was a faint white ring sublimed, but no characteristic crystals could be seen under the microscope.

Sixteen ounces weight of the liver was put into an evaporating basin of Berlin porcelain, with two ounces and a half weight of *pure* sulphuric acid, previously tested. This was put in a sand-bath, where it was allowed to remain till it became carbonized. To the ash six drachms of pure muriatic acid and the same quantity of pure nitric acid were added. The whole was then placed in the sand-bath, evaporated to dryness, and incinerated. The ash was powder-

ed and boiled in six ounces of distilled water. One drachm and a half of muriatic acid was then added and copper wire boiled in it. On its removal, it was of an iron-grey colour, with here and there the copper tinge. On heating the wire to a low red heat in a test tube, a white ring was slowly sublimed. On examining this in the microscope, the octohedral crystals and triangular facets were distinctly seen.

The Blood.—To four ounces of this, half an ounce of muriatic acid was added. Copper wire boiled in this became of a grey colour, and on heating it at a low red heat in a small test tube, a white crystalline ring was sublimed. Under the microscope this showed the octohedral crystals and triangular facets with remarkable distinctness.

Report.—From the well-marked appearances of acute inflammation in the pharynx, stomach, and duodenum, and from the circumstance of arsenic having been detected in the substance of the stomach, the liver, and the blood, we are of opinion that the death of the deceased was caused by taking arsenic.

THOMAS ELLIOT, Surgeon.
RICHARD JAMES, M.D.

After hearing the medical evidence, the inquest was adjourned, as it transpired that the wife of Mr John Graham, the eldest son of the deceased, had died six months before, affected with similar symptoms, but which were attributed, at the time, by her medical attendants, to cholera.

From this and other circumstances, the coroner ordered the body to be disinterred.

A report was given in by the medical gentlemen who conjointly conducted the post-mortem examination and chemical analysis.

The facts elicited in evidence before the coroner were deemed sufficiently strong by the jury to warrant the committal of the husband for the wilful murder of his wife.

The first inquest was then resumed, and a verdict returned, "That the deceased John Graham died from the effect of poison, wilfully administered to him; and the Jury record their verdict of wilful murder against some person or persons unknown."

On searching the house of the prisoner after his committal, some of his clothes were taken possession of, and distinct traces of arsenic found on subjecting the dust of the pockets to analysis. The subject was then taken up by the magistrates, who, after careful examination, committed the prisoner to take his trial for the murder of his father also.

The following is an abridged report of the trial, which took place before Baron Rolfe, at the Cumberland assizes, in August last.

Analysis of the Left Waistcoat Pocket.—The contents of the pocket were carefully shaken out on writing paper, and the pieces of sealing-wax and other foreign substances removed; the remainder was then put into a test-tube of about three-eighths of an inch in diameter, and six inches long. On carefully heating it, a little moisture arose, and was removed with blotting paper. Then empyreumatic matter, which, by carefully managing the heat, was got to settle within an inch of the bottom of the tube. Continuing the heat, a metallic ring settled partly above and partly amongst the empyreumatic matter, and by carrying the heat higher up, the empyreumatic matter was itself charred, and nothing remained in the tube but a clear and broad metallic ring, and charcoal. The latter was shaken out, and the ring shoved backwards and forwards until nearly converted into brilliant crystals, which, examined by the microscope, were seen to be very distinct octohedrons. The remains of the ring and a portion of the crystals having been got to the bottom of the tube, the blow-pipe flame was directed on its middle, and the lower part hermetically sealed and preserved. A small quantity of distilled water was boiled in the upper portion (containing the largest proportion of crystals,) and the solution obtained gave a bright yellow and curdy precipitate with am. nitr. of silver; an apple-green precipitate, with am. sulph. of copper; and a copious golden-yellow precipitate,

with sulphuretted hydrogen. The last precipitate was found to be soluble in ammonia, and insoluble in muriatic acid.

PART FOURTH.

MEDICAL NEWS.

Correspondence between the Managers of the Royal Infirmary, Edinburgh, and Dr Cormack, relative to the resignation of the latter as one of the Physicians of the Institution.

"The system of teaching Clinical Medicine in the University of Edinburgh is defective." "To render the Clinical School of Edinburgh complete, it appears to me that a Practical should be added to the present Hospital Clinic."—*Sir James Clarke.*

PREFATORY NOTICE.

I deem it due to my friends, professional and non-professional, to publish the following Correspondence, relative to my resignation as a Physician to the Royal Infirmary of Edinburgh.

At the time I became a candidate for the office, I had in view the status it conferred, and the facilities which it afforded for professional improvement; but I soon found, that the conscientious discharge of Infirmary duty was often incompatible with due attention to private practice; and having adopted my profession as a means of livelihood, I foresaw, that unless a change took place in the hour of visit,[1] and in some of the other hospital arrangements, I should ultimately be obliged to resign.

In commercial appointments, gratuitous services are appreciated at their proper value, and are fast falling into desuetude. Referring to this fact, and to the financial and vital statistics of the Infirmary as compared with similar institutions,[2] I suggested to several of the Managers, that some remuneration to the physicians was absolutely necessary, if they wished to command adequate attention to the medical wants of the suffering poor entrusted to their charge. I was assured, however, that it would be useless to bring any such proposition before the Board.

I next attempted to effect some change in the system of clinical instruction, whereby I might have had some indirect advantage from my appointment. Public hospitals should be regarded not merely as *curative* institutions, but as establishments calculated to promote the general health of the community, by affording medical students extensive opportunities of minutely observing and studying disease in a collected form; and in no way can this object be fully accomplished, except by hospital physicians giving careful conversational courses of bedside tuition to small classes. The privilege of giving *any kind* of medical clinical instruction in Edinburgh, has been limited by the Managers to two or more uni-

[1] *Vide* Captain Thomson's papers in Edin. Med. and Surgical Journal.

[2] The visit hour is noon.—By changing it to a morning hour, say 7 in summer and 8 in winter, the time of the physicians would not be cut up; and the alterations in diet prescribed could at once be carried into effect, whereas at present, if a patient on *full diet* has it changed to *low diet* at 12 noon, he will still get his dinner of full diet at 2 P.M., and no low diet till 2 P.M. of the following day.

versity professors, and alternately to one of the two senior Infirmary physicians. I never could see the propriety of this monopoly. Bedside instruction can—like Practical Chemistry—be taught only by the teacher coming into direct and individual contact with each pupil; and without this kind of tuition all other medical study is valueless. It therefore caused me deep regret to find that the Managers resolved to prevent me—although their concession would not have been without a precedent—from attempting to remedy to a small extent, a defect of such importance, particularly as its existence in Edinburgh formed the special subject of an excellent pamphlet by Sir James Clarke.

When hesitating what course I ought to follow, in consequence of the declinature of the Managers, I received their communication of the 2d of October, which led to a renewal of the correspondence; and was followed by my resignation.

I have at present contented myself with referring to such matters as are merely personal; but there are many things of public interest connected with the Infirmary, to which I may afterwards refer at some length.

131 Princes Street, Edinburgh, 22d October 1845. John Rose Cormack.

CORRESPONDENCE.

No. I.

To the Hon. the Managers of the Royal Infirmary. 131 Princes Street, August 23, 1845.

My Lord and Gentlemen,—It is my desire early in the ensuing session, to offer private clinical lessons to a class of *not more than ten pupils*. As the greatest part of my instructions must be given in connection with my patients in the hospital, I feel that I cannot with propriety take any steps in this matter without receiving your permission, which I now respectfully ask. What I contemplate is, *not the giving of Clinical Lectures*, but of familiar practical lessons, on the plan which, in March last, you permitted Dr Douglas to pursue.

I have only within the last few days learned, that my not discharging Dr Craigie's duties, during his now long-protracted absence from the hospital, has been attributed to a disinclination on my part to undertake the work. I think it right therefore to state, for my own justification, and perhaps for your information, that this is not the case. I have never received any communication from you, Dr Craigie, or my other colleagues on the subject, which has surprised me; as I believed, that whenever one of your physicians was unable to discharge his duties for a time, however short, he would intimate the same to you, by whom, as a matter of course, (unless the absence was to be a very short one) the physician who at the time was supernumerary by rotation, would be called into active service, the duty assigned to him being mainly regulated by his seniority. I am, my Lord and Gentlemen, your obedient servant,

John Rose Cormack.

No. II.

To the Hon. the Managers of the Royal Infirmary. 131 Princes Street, August 30, 1845.

My Lord and Gentlemen,—I beg respectfully to solicit an early answer to that part of my communication of the 23d inst. which regards "*private clinical lessons*," as it will materially affect arrangements which I require to make without delay in reference to the approaching session.

Dr Beilby and Dr Pitcairn—deputed by you to consider my letter—met with me at your request, and heard from me a full account of what I have in contemplation. They intimated to me, that as objections have been raised by some of those gentlemen who are more immediately interested in keeping up the present restriction on clinical teaching, I ought to inform you in writing, (of what

I stated to the Committee in words,) that I did not crave leave to give certificates of attendance upon clinical lectures—that my lessons would in no way interfere with the emoluments which arise from the clinical monopoly ; as from private lessons not qualifying for the Boards, students would not come to me, if they could get the same kind of instruction by attendance on a course which would be received as a part of the regular curricula. When I said in my former letter, "What I contemplate is not the giving of clinical lectures, but of familiar practical lessons," I meant, that I would not be a competitor with the present Clinical Lecturers, as attendance upon them would still be *compulsory*, and upon me purely *voluntary*.

What I wish to gain is not a mere personal end.—To supply the rudiments of Clinical Science to such a great Medical School as Edinburgh still is, *several* private Clinical Teachers are urgently required; and as they are not only tolerated, but much encouraged, in all the Hospitals of Paris, and recently in some of those of London, and Dublin, and in the Infirmary of Glasgow, the number of pupils who fee the Edinburgh Hospital will go on decreasing from year to year; and I am not singular in believing that the reputation of Edinburgh, as a School, for safe practitioners, can only be maintained by several such classes being kept in constant operation. When a student at the Edinburgh Infirmary, I felt painfully what I have heard every other student, with whom I was acquainted, state to have been his own case, that comparatively little every-day practical knowledge could be derived from frequenting your crowded Clinical Wards, and listening to the able discourses which are delivered with reference to the cases twice a-week; and this must be so with every pupil who has not previously been taught in familiar and daily lessons how to observe disease. This kind of information cannot be communicated by desultory observations at the bed-side; which, however, may be of immense value to those who have been carefully and systematically taught *the rudiments of medicine* at the bed-side. I have ventured to trouble you with these remarks, not because I suppose they contain any information; but to point out, that I regard the subject of my request as one involving the interests of the public, and of the students, inasmuch as I wish to enjoy no monopoly, and will never object to the indefinite multiplication of private Clinical Teachers.

Were I only asking a personal favour, I would still consider my claim as more than sufficient; for allow me to remind your Honourable Board, that the appointment to the Medical Department of the Infirmary of Edinburgh, is not only without emolument of any kind, but from the number of patients, and the hours fixed for attendance involving the most valuable part of the day, the faithful discharge of the duties is quite incompatible with even an average private practice. The experience which may be gained by holding the situation is valuable; but unless the physician, when private practice presses, neglect his Hospital patients, or consign them to his clerk and nurses, this experience will be purchased at an immense present sacrifice on his part.

In conclusion, I have only to say, that Private Clinical Teaching has, wherever it has been tried, been found of signal benefit to the patients, and the pupils; and of great service to the teacher, in training him for the adequate discharge of the more formal, the more difficult, but not the less necessary duty of Clinical Lecturing. I am, my Lord and Gentlemen, your very obedient servant,

JOHN ROSE CORMACK.

No. III.

Dr Cormack,
131 Princes Street.

ROYAL INFIRMARY,
1st September 1845.

SIR,—I am directed by the Managers of the Royal Infirmary to inform you, that, after considering your letters of the 23rd and 30th ult., they resolved, that it was inexpedient to grant the privilege sought by you. I have the honour to be, Sir, your most obedient Servant,

PETER BELL,
Clerk to the Incorporation.

No. IV.

Extracts from Minutes of the Managers of the Royal Infirmary, 22d September 1845.

"The Committee beg to recommend in regard to the attendance of the Physicians of "the Institution, that at all times when any of them are absent from their duties, no "one shall be entitled to officiate in their stead, unless warranted to act in the capacity "of Physician by an express appointment from the Managers, and that in all such in- "stances the Junior Physician off duty is the natural person to be applied to, and em- "ployed, in virtue of his status in the Royal Infirmary.—And it is farther recommended "that the above regulation should apply to the Clinical Physicians as well as to the "Ordinary Physicians."

Royal Infirmary,
2d October 1845.

Sir,—I am directed by the Managers of the Royal Infirmary to transmit to you the foregoing extract from the Minutes of the 22d September, and to state that the Managers, in terms of the Report, beg that, when any unavoidable absence occurs, information may be immediately made to them. I have the honour to be, Sir, your most obedient servant,

Dr Cormack, Peter Bell.
131, Princes Street.

No. V.

Royal Infirmary,
2d October 1845.

Sir,—I am directed by the Managers of the Royal Infirmary to inform you, that in consequence of an application from Dr Craigie, they have granted him leave of absence for six months, and in consequence, have directed the Physician, now off duty, to be called on; it being understood that Dr Paterson will attend Dr Craigie's wards, and that the ordinary rotation, in all other respects, will take effect. I have the honour to be, Sir, your most obedient Servant,

To Dr Cormack. Peter Bell.

No. VI.

To the Hon. the Managers of the
Royal Infirmary.

131 Princes Street,
3d October 1845.

My Lord and Gentlemen,—I have this day received from your clerk, Mr Bell, an excerpt from your minutes, containing a resolution recommending the observance of an original statute of the Infirmary, which I beg to say I have never violated, and would never in any way wish to evade.

Along with the excerpt from your Minutes, I have received an official letter from Mr Bell, informing me, by your desire, that "in consequence of an application from Dr Craigie, you have granted him leave of absence for six months, and in consequence have directed the Physician now off duty to be called on; it being understood that Dr Paterson will attend Dr Craigie's wards, and that the ordinary rotation in all other respects will take effect."

You are aware that for a long time past, the Senior Physician has unfortunately been unable to give personal attention to his duties, although it is only now that my services are asked in place of his, and that the Second Physician has lectured both as a substitute and as a principal; and thereby established in his own person a monopoly of what was intended by your regulations to be done by two distinct parties. Now, however, that the Senior Physician has formally relinquished his duties for a time, I shall feel obliged by your informing me, if I am to understand that in virtue of my position, as Second Acting Physician, I am, for the time I occupy that position, to be allowed to exercise the privilege annexed to that office, of being allowed to give Clinical Lectures alternately with the Senior Acting Physician.

I take the liberty of making this inquiry without prejudicing the application,

to give Conversational Clinical Instruction, which I formerly preferred in my capacity of Third Physician; and which, to the surprise of every one, was refused by the Managers, without any reason being assigned. I am, my Lord and Gentlemen, your obedient servant, JOHN ROSE CORMACK.

No. VII.

ROYAL INFIRMARY,
6th October 1845.

SIR,—I am directed by the Managers of the Royal Infirmary to inform you, that your letter of the 3d inst. was laid before them this day, and that they had likewise an application dated 4th inst., from Dr Paterson, requesting to be allowed to remain in charge of his own wards.

After considering the whole subject, the Managers resolved, that Dr Paterson should be allowed to remain in his own wards, as requested, and that you should take charge of Dr Craigie's wards, according to the rule of seniority; and, with reference to the other part of your letter, they resolved that this being only a temporary arrangement during the absence of Dr Craigie, for six months, their understanding is, that Dr Paterson is to lecture for Dr Craigie during the period of his temporary absence, and that therefore your services as a lecturer will not at present be required. I have the honour to be, Sir, your most obedient servant, PETER BELL.

Dr Cormack,
131 Princes Street.

No. VIII.

To the Hon. the Managers of the
Royal Infirmary.

131 PRINCES STREET,
13th October 1845.

GENTLEMEN,—I duly received your letter of the 6th instant, and have given it my most careful consideration.

As there is a determination on your part to prevent me from participating in any of the advantages fairly belonging to the responsible, laborious, and personally hazardous office of Infirmary Physician, I feel that I would be wanting in self-respect, as well as in duty to my family, did I any longer retain the appointment. I now, therefore, resign it into your hands. I am, Gentlemen, your obedient servant, JOHN ROSE CORMACK.

No. IX.

ROYAL INFIRMARY, EDINBURGH, Oct. 14, 1845.

SIR,—I am directed by the Managers of the Royal Infirmary to acknowledge receipt of your letter of yesterday's date, resigning your office of Physician to the Infirmary, and to express their regret, that the terms in which the communication was made, put it out of their power to follow any other course than to accept the resignation so tendered. The Managers desired me to convey to you their thanks for your valuable services, during the two years you acted as Physician to the Infirmary and Fever Hospital; and, at the same time, to express their regret that, in retiring, you should have done so on a narrative, the accuracy of which they cannot admit. You say there is a determination on the part of the Managers "to prevent you from participating in any of the advantages fairly belonging to the responsible, laborious, and personally hazardous office of Infirmary Physician," and that it is on account of this alleged determination on their part, that you resign your office. They feel it due to themselves to state, that you have entirely misapprehended their feelings towards you. They do not now, and never did, entertain the sentiments you impute to them.

Their desire has been to distribute impartial justice to all the officers of the Establishment; and it was only because they conceived that it would have been an act of injustice to Drs Craigie and Paterson, to have interfered with the temporary arrangement entered into between them, regarding the course of lectures to be delivered during the ensuing six months, that they felt themselves at present obliged to decline giving their sanction to any lectures which you might have contemplated delivering. My letter to you of the 6th instant, rested the declinature entirely on the ground of this being a temporary arrangement, and expressed no opinion whatever adverse to your claims hereafter to lecture every alternate year, in the event of Dr Craigie being unable to resume his valuable services to the Infirmary, after this temporary arrangement for six months should have expired.[1] I have the honour to be, Sir, your most obedient servant,

PETER BELL.

Dr Cormack,
131 Princes Street.

No. X.

To the Hon. the Managers of the Royal Infirmary.

131 PRINCES STREET, 16th October 1845.

MY LORD AND GENTLEMEN,—I beg explicitly and sincerely to repudiate the charge of imputing to you "sentiments" or "feelings" intentionally adverse to myself.

In resigning my office as Infirmary Physician, I truly stated the ground of it to be your determination to prevent me from enjoying any of the advantages which I conceived to be fairly belonging to my late office. You interdicted me from giving conversational Clinical Instruction to ten pupils to whom, in my anxiety to conciliate Dr Craigie, Dr Paterson, and the University Professors, I pledged myself that I would give no formal lectures, and no Clinical Certificates. During a long period, when Dr Alison and Dr Christison were unable to do the whole duty of the Clinical Wards, and when I was not on duty, you delegated certain of these wards to Dr Bennett, (who is not one of the Physicians of the Infirmary,) without making any communication to me on the subject. You did not call on me to perform hospital duty when Dr Craigie ceased to visit his wards months ago, and went to Germany; but only when you authorized Dr Paterson to lecture in room of him; that is to say, when at Dr Paterson's request, you assigned to me Dr Craigie's wards, and to Dr Paterson, Dr Craigie's privileges. In acting thus, your only desire was to be courteous, and "to distribute impartial justice to all the officers of the Establishment:" and you dealt with me not as a private gentleman, but as an individual holding a certain appointment.

I resigned, not because I thought that the sentiments of the Managers were personally unfriendly to me, but because I felt that I would be wanting in self-respect, as well as in duty to my family, did I retain the appointment upon the footing which you deemed "impartial and just."

Trusting that this explanation will satisfy you, I am, my Lord and Gentlemen, your obedient servant,

JOHN ROSE CORMACK.

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[1] I never doubted but that if Dr Craigie resigned, I would *of necessity* be allowed to lecture every alternate year, as I would then have been Second Physician; and my request was, that as, during Dr Craigie's *temporary* absence, I became Second Acting Physician, I might *temporarily* enjoy the advantages, as well as undergo the labour of that office. Dr Craigie lectures this year by his proxy, Dr Paterson, and next year Dr Paterson will lecture in his own right; and supposing that Dr Craigie were now to resign, I would—had I remained in office—have been *entitled* to lecture two years hence. I would then have been in the fifth year of my service, during two years of which time, I would have been doing the duty, without participating in any of the privileges of the Second Physician. This, in the opinion of the Managers, would be "impartial justice." Why? "Because they conceived it would have been *an act of injustice to Drs Craigie and Paterson to have interfered with the temporary arrangement entered into between them.* J. R. C.

LETTER TO THE RIGHT HONOURABLE SIR JAMES GRAHAM, BART., PRINCIPAL SECRETARY OF STATE FOR THE HOME DEPARTMENT. BY JAMES SYME, ESQ., Professor of Clinical Surgery in the University of Edinburgh.

SIR,—I beg, with great respect, to submit for consideration the following remarks upon the effect which your proposed legislative measure may be expected to have upon the Medical Institutions of Scotland, and more particularly upon the University of Edinburgh.

For the medical care of her Majesty's subjects throughout the British dominions, at home and abroad, a large number of practitioners competent to perform all the duties of their profession is required. The surgeon of a ship, of a regiment, of a colony, and of a country district, must be prepared to conduct the patients who fall under his charge through the dangers and difficulties of pregnancy and parturition, to treat the ailments of nurses and infants, of children and adults, to remedy injuries, and to perform the operations of surgery; in short, to the fullest extent of the term, to be a "General Practitioner."

In thickly peopled parts of the country, and in towns of considerable size, individual practitioners, through their talents, opportunities, or experience, may acquire the confidence of those around them, so as to be consulted by their medical brethren, while still carrying on a general practice of their own. And in fields of still wider extent, such as those afforded by metropolitan cities, there may be room for declining attendance upon families, and practising exclusively as physicians, surgeons, or accoucheurs.

In order to supply these wants of the community, it is obviously desirable that the most efficient means of medical instruction should be provided, together with inducements to take advantage of them, rather than of inferior qualifications for practice; that the public should be protected against the licensing of practitioners who have not completed a proper course of education; and that the zeal of all those regularly introduced into the profession should be encouraged by the prospect of attaining to its highest honours, through the successful prosecution of medical science.

The great intention of "Medical Reform" was understood to be the promotion of these objects by the removal of injurious restrictions, and especially that monstrous anomaly by which the best education in Scotland or Ireland is held inadequate to qualify for general practice in England. In the several Bills brought forward during last session of Parliament, there is accordingly provision for establishing a course of preparation which, wherever completed, will be deemed sufficient for obtaining the right of practice. But this important and long-desired boon is associated with other changes, which, it is feared, will more than counterbalance the advantage that was anticipated from legislative interference. These are, classifying the profession, and restricting the universities in their power of graduation.

It is proposed that all the members of the medical profession should be registered as Physicians, Surgeons, and General Practitioners, according to their courses of education. Now, as I have already stated, such an arrangement as this must exist to a greater or less extent in every community. But to accomplish it by the schools or licensing bodies is not less impracticable, than to determine, by similar means, the grades to be reached in the law or church by students of these professions. Education is of infinite importance to the individual, but with the profession and the public, counts for nothing when compared with the successful exercise of talent; and the general practitioner, who has acquired the confidence of his district, holds a position that never will be conceded to a title dependent upon the mere prolongation of studies or repetition of examinations.

In the Edinburgh Colleges of Physicians and Surgeons there are few practitioners of Physic or Surgery—of the latter only one—by whom attendance upon families is declined. Those distinguished men, Dr Thomson, who now spends the evening of his days in honourable retirement from active exertion, and the late Dr Abercrombie, practised for many years as fellows of the College of Surgeons, and as family attendants, before the confidence of the profession was so

strongly expressed as to call them into the position of pure physicians; and there are at present many practitioners of eminence, who, although frequently employed in consultation, would not willingly be restricted to a field, which, unless very extensively cultivated, is productive of more honour than emolument.

It is only to the general intelligence and liberal education of medical men throughout the country, untrammeled by exclusive privileges, and stimulated by free competition, that this rarity of physicians and surgeons can be ascribed; and it is therefore evident that, if the meaning of these titles is to be preserved, it would be necessary, in order to afford room for the different proposed ranks, that the great body of the profession should be lowered in public estimation.

In proceeding to the principal object of this communication, which is to explain the effect that the contemplated measure would have upon the University of Edinburgh, I beg to state shortly the constitution of this medical school. The Medical Faculty comprehends thirteen Professorships, to five of which the appointment lies with the Crown, that of the other eight being confided to the Town Council of Edinburgh. The emoluments and respectability derived from these chairs, together with the assistance which they afford to the professional pursuits connected with them, whether of a practical or scientific nature, have hitherto, on the occasion of every vacancy, brought into the field a succession of candidates, generally regarded as occupying a leading, if not the first place, in their respective departments. In addition to their fees, five of the Professors have salaries from the Crown. More than L.100,000 of the public money has been spent upon completing the University buildings. Nearly the same sum has been bequeathed to the management of the Principal and Professors for promoting the prosperity of the institution. The Museums of Anatomy, Natural History, and Materia Medica, are extensive and efficient. There is a Botanic Garden established at an expense of L.30,000, in the most perfect state of management. The Royal Infirmary, which contains distinct medical and surgical establishments, is resorted to by patients, not only from every part of Scotland and its islands, but also from the North of England and Ireland; and, consequently, it is believed, exhibits to the student a greater variety of disease than any other single hospital in Great Britain.

Such being the condition of the University, and the number of its medical students being actually greater than that of any other school in Great Britain or Ireland, it was expected that a measure proposed or sanctioned by Her Majesty's Government, if it did not encourage and support, would certainly not cramp and fetter the working of an establishment so complete and vigorous. It is therefore with the deepest concern and disappointment that the Medical Bill now before the public has been found to contain arrangements which, if enacted into law, will infallibly render the University of Edinburgh useless as a School of Medicine, convert its medical chairs into sinecures, and render all the funds bestowed upon it so much money thrown away. That any such effect was intended by Her Majesty's Government, or their immediate advisers, is not and never was for a moment suspected. But that the partial, perhaps interested, views of other parties may have been permitted to exert an adverse influence under the specious guise of elevating the dignity of University honours, I believe there is too much reason to fear.

For the last hundred years the University of Edinburgh has been employed in the education of medical men for general practice. The diploma which it bestowed upon graduates in medicine conveyed little real privilege, but was valued as a testimonial that its possessor had completed a regular course of study in this or some other university, under teachers not self-constituted, but appointed by public authority, and had passed examination by the members of the Edinburgh Medical Faculty. The young men of Scotland looked to graduation at Edinburgh as the step most conducive to their advancement, whatever might be their views of medical practice; and candidates for this honour came to study here, not only from England and Ireland, but from many distant countries. The medical departments of the army and navy lists, with many of the names most respected in the East India Company's Service, in the

Colonies, and in private practice at home, show how extensively our degree has been sought, and how worthily it has been bestowed. But the Medical Bill withdraws the power of qualifying for general practice from the Universities, and transfers it to the Colleges of Physicians, Surgeons, and General Practitioners.

Examining Boards selected from these bodies separately, or variously combined, are to give letters-testimonial for registration, as general practitioners, to candidates 22 years of age, after five years of medical study; while the title of Doctor, implying graduation in a University, is not to be assumed before the age of 26, passing an examination by a College of Physicians, and becoming associated with it. It is evident that this protracted and complicated process, requiring at least eight or nine years of professional study, would be quite inconsistent with entering the public service, or encountering the laborious duties of general practice, and must therefore be confined to the few possessors of means and connections sufficient to warrant the expectation of obtaining employment as physicians of the upper ranks. It is true that the Universities are to have the power of granting an inferior degree of "Licentiate in the Faculty of Medicine," at the age of 22, after four years' study. But as this title cannot be obtained without undergoing the examinations and paying the fees required for registration as a general practitioner, while it conveys no privilege in addition to those implied by that designation, there is little reason to expect that the Universities will ever be called upon to confer such an equivocal and profitless honour. Indeed the degree of M.D. itself will cease to retain the value it has hitherto possessed, since it will no longer either imply University study or be requisite to constitute the title of physician, as the Universities are to confer degrees upon candidates who have studied in extra-academical schools recognised by the Council of Health, and as general practitioners at the age of 40, after twelve years' practice, may be registered physicians upon passing an examination by the College of Physicians of England.

It may still be said, that, although the University should cease to be a source of medical honours to the working part of the profession, it will nevertheless serve as a school of preparation for the letters-testimonial which are to issue from the Colleges. But it is hardly to be expected that students and their friends will submit to the restraint and expense of University attendance, if the qualifications which they require are to be obtained on easier terms at provincial or extra-academical schools, especially when it becomes known that the licensing members of the Colleges, from not being teachers, must prepare themselves expressly for examination, which thus becoming merely a trial of memory, will give the youthful mind, assisted by an experienced "grinder," a decided advantage.

"It may therefore be fairly anticipated, that, under the proposed system, the University of Edinburgh will cease to flourish as a Medical School, and, like Oxford or Cambridge, do little more for medical science than annually confer a few honorary degrees. And if this result should unhappily ensue, there can be little doubt that a similar fate will attend the other Universities of Scotland.

In conclusion, Sir, as a teacher of nearly twenty years' standing, and consequently well acquainted with the disposition, habits, and powers of medical students, I beg to remark, that the system of repeated examinations on the same subjects, by different Boards, and especially when protracted beyond the age of 22, is greatly opposed to the acquisition of sound and useful knowledge. Medicine throughout all its departments is a science of observation. Memory alone, however retentive or diligently assisted by teaching, is unable to afford the qualifications required for practice; and it is only by digesting the facts learned, through reflection, comparison, and personal research, that they can be appropriated with any improving effect. But when the mind is loaded with all the minutiæ of elementary medical and collateral study, it is incapable of the intense and devoted attention essential for attaining any approach to excellence in practical medicine or surgery. It has accordingly always seemed to me that the character of medical men depends less upon the mere period of studentship, than upon the mode in which they spend the years immediately succeeding it,

when, all their trials being past, and examinations no longer in view, the whole strength of a young, vigorous, and disciplined intellect, may be applied to preparing itself for the business of life. The Bill affords no such opportunity, and, keeping the examination by his college for the last act of a physician's course of education, in addition to all the cares of graduation, would prevent the best part of his long nine years' probation from being turned to the most profitable account.

From what has been said, I trust it will appear,

That it would not be either expedient or practicable to classify the medical profession in Scotland.

That the education of general practitioners should be the great object of National Medical Schools.

That the University of Edinburgh has hitherto been employed for this purpose.

That the proposed Bill, by restricting its powers of graduation, would seriously injure, if not altogether destroy, this University as a Medical School.

If these truths, as I believe them to be, should lead to a reconsideration of the proposals for improving the state of the profession, I would respectfully suggest the following measures, as easily practicable and fully sufficient to remedy the existing evils:—

1. A Public Board to superintend the various Medical Schools and Licensing Bodies.

2. A standard of Education, qualifying for general practice throughout her Majesty's dominions.

3. A Register of qualified Practitioners, stating their respective licenses and titles.

4. A Regulation, requiring at least one year's study at the University from which a degree is obtained.

I deem it unnecessary to explain at length the effect of these measures, but may shortly state, that they appear calculated, in the *first* place, To protect the public from unqualified practitioners, without suppressing the present licensing boards, or of establishing others of untried efficiency; *secondly*, To afford professional talent and acquirement free scope for honourable competition; *thirdly*, To excite a generous emulation in the schools and licensing bodies, by connecting with them in the public register the names of their respective *alumni;* and *fourthly*, To prevent Universities devoid of Medical instruction from trafficking in degrees.—I have the honour to be, Sir, your most obedient Servant,

JAMES SYME.

9 CHARLOTTE SQUARE, October 1845.

HINTS TO INVALIDS ABOUT TO VISIT MADEIRA. BY DR LUND, F.R.C.P.E.

To the Editor of the LONDON AND EDINBURGH MONTHLY JOURNAL.

HAUTVILLE, GUERNSEY, September 5, 1845.

SIR,—HAVING been often requested to furnish different individuals with information relative to the arrangements required previous to their visiting Madeira, it is hoped the following remarks will clear up some of the difficulties, and enable their medical attendant to give them proper directions. The number visiting the island averages 300 individuals, half of whom may be considered as leaving England from bad health. It is to be regretted that many still go out, either by the advice of their medical man, or often contrary to his directions, and arrive in a perfectly hopeless condition. The writer sailed to the island in a vessel containing three of these unfortunate cases, all of whom died within one month after landing; and others of the same distressing kind occur every season, wherein the person is obstinately bent upon trying the climate solely on his own responsibility. The blame, of course, rests entirely on himself; but, it

may also occur that the medical adviser (though guided by most anxious wishes for his patient's welfare) may delay too long, and by the time he considers the case *distinctly marked*, softening may have occurred, and this process still advancing, the unfortunate invalid is sent to a foreign clime in the vain hope of restoration to health, the delusion being soon fatally proved by the patient sinking. Such cases as these are unsuited to any clime; and Madeira, with all its advantages and balmy atmosphere, fails to give relief; but where there is that state of constitution described by Sir J. Clarke, as Tuberculous Cachexy, and Phthisis, strictly limited to its incipient stage, then there is every prospect of permanent relief; and the less of dyspepsia there is so much the better, the stomach, where already enfeebled, being apt to lose tone rapidly during the sojourn of such patients in the island.

It is true, that many now reside in Madeira, who will most likely continue to enjoy (whilst doing so) a most comfortable life; but they are the "few" out of the many, and usually amongst the middle-aged, tending to confirm Dr Bennett's observations in your Journal,[1] who, in 73 cases, ascertained that, after the age of forty, progress towards a cure existed in so many as one-third to one-half. Surely, when we see this occurring in a cold variable climate, and in hospital patients,—a class well known to be exposed to many detrimental causes, all tending to lower vital action,—we are fully justified in expecting much more favourable results where *proper cases only* are sent abroad; and the experience of physicians fully proves, that translation to a warm climate, such as Madeira, will often remove the constitutional predisposition to phthisis, and keep tubercle, where already deposited, quiescent. Many now living at home useful members of society, owe their lives to going abroad thus early. There are others in whom the disease had progressed farther, and yet life has been prolonged for many years; and by remaining on the island, they ward off the fatal event for a long, apparently an indefinite, period. Those who wish change of scene and excitement, will best suit their purpose on the Continent; but to the invalid, a quiet retreat and fine climate are indispensable, and Madeira furnishes both of these. Considering that Funchal is reached by steam in seven days from Southampton, it is surprising that many more do not take the voyage, (a remedy of great importance in chest diseases, and especially with tendency to hemoptysis,) in preference to visiting the south of England, where the best winter climate is good only as compared to the more northern counties. The only advantage appears to be, that in the south of England, winter is delayed a little, and spring approaches somewhat earlier than in other parts. The great degree of damp, also, restricting exercise to the middle of the day, is a decided drawback to Devonshire. Madeira is a favoured spot, and can boast of a winter and spring similar to a very fine summer at home; and although the majority of winter residents return in May, (which would be much better delayed till June,) they might, if anxious to remain, secure during the whole year most delightful weather, by going to the north of the island, or visiting the mountains. With all these advantages of climate, the invalid should never forget, that very much of his future prospects of good health depends upon his own prudent conduct; and that, although in a most favourable position as regards pure air, cheerful scenery, opportunities for regular exercise, &c., he is still an invalid, and only placed under more favourable circumstances for aiding proper treatment; and that a slight imprudence on his part will often undo the good which he has long laboured to obtain. Not a few, joyful at being emancipated from the necessary restraint at home, forget all prudent resolutions, and seriously injure themselves by over-exertion in riding, rowing, walking; others by visiting the ceremonies in the cathedral at night, thus exposing themselves to a vitiated hot atmosphere and night air. As a general rule, invalids would do well to avoid any cause which quickens the breathing or the pulse.

Funchal, the capital of Madeira, has of late years much improved in home-comforts; and although strangers will have no difficulty in obtaining the requisite articles for family use in the different English shops there, yet it will be

[1] April 1845, p. 332, No. 52.

advantageous to take with them the following articles, viz. silver spoons and forks; a few steel knives, scales and weights, and blankets, if in a furnished house; and *all* will find it of advantage to have stationery, a few medicines which they commonly use, stock of shoes, warm and light clothing, saddle and bridle, ladies' riding habit, and straw bonnets.[1] A passport is not requisite before leaving England, permission to reside being readily obtained, and at a cheaper rate at Funchal. Money (there being no banks) is best taken half in sovereigns, which pass for their full value, and are useful in the return voyage; the remainder by letter of credit upon some Madeira merchant, the order being obtained from his correspondent in London. Portuguese money, used on the island, is counted by an imaginary coin, called "Reis," ten equalling our half-penny. The following coins are in common use:—

Dix reis,	= ½d.	
Vintem,	= 1d.	
Testoon or bit,	= 5d.	4 Dollars and 8 bits, = L.1.
Cistarine,	= 10d.	
Dollar,	= 4s. 2d.	

The proper time for arriving in Madeira is about the middle of October; and most decidedly the best mode for those desirous of a steam voyage, is by the Peninsular and Oriental Company's steam-ship "Royal Tar," (Office, 51, St Mary's Axe, London,) usually sent out expressly with invalids from Southampton each autumn; and the same vessel returns for passengers in May for the homeward voyage. But before taking this last, she generally has two trips to Gibraltar; thus giving Madeira winter-residents the option of returning home viâ the Peninsula, and visiting Gibraltar, Lisbon, Cintra, Cadiz, and Seville, thence to Oporto, Vigo, and Southampton. During this trip, the expenses at the different hotels may be averaged at two dollars *per diem*, with the exception of Gibraltar. The regular Madeira traders are all most excellent, but being sailing vessels, their time of arrival is uncertain. To a person not in haste this is an advantage, from the length of the sea voyage; and invalids will do well to remember the great efficacy of voyaging in pulmonary affections, and especially with any tendency to spitting of blood. I have been eleven, thirteen, and thirty-four days in these sailing packets, and the voyage last named was during the winter season, when we had every comfort the same as when we first sailed. After trying West India steamers, and vessels calling off the island on the outward voyage, I can confidently recommend the Peninsular and Oriental Company's steamer, or any of the regular traders, there being many disadvantages connected with the other vessels which only "*call off*" the island, and do not anchor in the bay. Accommodation is plentiful, and fully equal to the demand. Families usually hire a furnished house, and have Portuguese servants, whose wages are,—cook, from 5 to 7 dollars per month,—groom, 4 dollars ditto. There are also private furnished apartments, the landlord finding meals and attendance. In boarding-houses, the inmates taking their meals together, and having a public sitting-room, including all expenses, except washing, the charge is L.10, 10s. a-month. Families intending to occupy a furnished house, will do well to take out a trustworthy middle-aged female domestic. Any person who has ever had the misfortune to pass their luggage through an English custom-house, will be glad to learn, that, in Madeira, the officers do their duty with politeness and urbanity, not ransacking every trunk belonging to some unfortunate invalid, as if it formed part of a contraband cargo: indeed, their whole conduct forms a contrast highly unfavourable to the English customs. I allude especially to the London custom-house. In returning, persons had much better have their luggage passed in Southampton,—landing off the Isle of Wight in a pilot-boat, where, if not speedily released, they will certainly meet with civility, and not risk their property. Letters arrive by the Royal Mail West India steamers twice in the month, leaving Southampton on the 2d and 17th,

[1] Furniture should *not* be taken, as the duty on it is *exceedingly* high; and such articles as candles, arrow-root, &c. are bought in Madeira at half the English prices.

at two P.M.[1] Letters must be prepaid; in addition to which there is also a charge made on the island. Newspapers from England require a twopenny stamp, or they are not sent. There is an excellent druggist shop, the "Botica dos dois Amigos." A good library: admission by ballot and paying a subscription, entitles one to the use of the library, news-room, and billiard room. Persons intending to ride regularly, usually buy a poney for about 65 to 70 dollars, and sell it at half price on leaving the island. After landing in the island, it is usual to apply for permission to reside for a specified period, and also to show proper respect to our own consul, by leaving a card at his office.—I am yours, &c.

GEORGE LUND, M. D.

VARIETIES.

PROJECT FOR THE PREVENTION OF HYDROPHOBIA IN MAN. BY M. STORTI.

This is certainly one of the most extraordinary ideas that ever entered the head of a philanthropist. Far be it from us, however, to discourage the author; nothing but the love of humanity could have inspired such a project; and, if he has erred in believing it realisable, let us never forget that we are generally apt to believe that which we most ardently desire.

Our readers may perhaps recollect, that many modern experimenters believe that the development of hydrophobia in dogs is to be attributed to the prolonged deprivation of venereal pleasures. The cause then being thus known, the remedy is evident. Looking to the manners and usages of animals somewhat higher in the series, M. Storti proposes the establishment of *seraglios* for the various canine species. In the second place, he wishes the extinction of all other dogs; and lastly, that all dogs, immediately after connection in the seraglio, should be castrated, and afterwards sold.

M. Storti does not rest satisfied with a mere vague prospectus of his project, but he enters into the most minute details for its application. Thus, in order to carry it into execution, it would be necessary, according to him,—

1st, To publish a decree, that all dogs should be destroyed by their masters within two years or more.

2d, To assign three or four localities in each province for the reception and preservation of the canine species. These localities, not to disturb the neighbourhood, should be at some distance from the town, and provided with spacious, well-inclosed courts, separate cells, &c.

3d, To regulate the price of the castrated dogs according to the fineness of their breeding.

4th, To guard against the introduction of dogs from foreign states.

5th, To regulate the establishment in such a way as to prevent the introduction of negligence or abuse.

It is perfectly refreshing to see the way in which the author developes his idea. He has no manner of doubt about its realisation; he sees the seraglio in operation; he visits it, organizes it, and regulates it. Three officers would be sufficient, a *keeper*, a *veterinary surgeon*, and a *superintendent*. Lastly, in order to get rid of the expense, he recommends government to monopolise the concern, and sell the dogs at their own price.

We have little desire to disturb the dream of a benevolent man; we cannot, however, help stating, that, while reading over his plan, a slight difficulty occurred to us. Suppose the establishment in operation and flourishing. All dogs have been killed by their masters, all canine importation has been prohibited, and lastly, all the new-born in the seraglio have been pitilessly castrated. So far well! But what dogs remain to frequent such establishments? Where are new recruits to be found? And how will the sultanas who remain agree

[1] Information relative to the regular Madeira packets can be obtained from Mr Reid, 3, Sun Court, Cornhill; and Richard Dart, Esq., owner, 3, Walbroke Buildings, London.

with companions reduced to a state even worse than that of eunuchs?—*Gazetta Medica di Milano*, as quoted in *Gazette Médicale*, 27th Sept. 1845.

"Une Critique Anglicane."—In reference to our note at p. 461 of the June Number, our Parisian cotemporary, the *Annales de Thérapeutique*, has the following reply under the above title:—"Un Journal de Médecine des plus estimables de la Grande-Bretagne, *The Lond. and Edimb. Monthly Jour. of Med. Scien.*, dans son numéro de juin que nous recevons à l'instant, se livre à une critique amère, aussi déplacée que de mauvais goût, contre les chirurgiens Parisiens, à l'occasion d'un article que nous avions donné sur les kystes hydatiques du poignet dans notre numéro d'avril dernier, p. 18. Dans cet article, nous exposions les résultats des deux nouvelles pratiques imaginées dernièrement à Paris pour guérir ces sortes de tumeurs, savoir, la simple ponction sous-cutanée suivie de topiques antiphlogistiques, ainsi que l'a fait M. Gerdy, et l'injection iodée de M. Velpeau. A cette occasion, nous nous sommes permis de désapprouver, comme dangereuse, la méthode ancienne qui consistait à fendre la tumeur avec le bistouri, et à faire suppurer la poche morbide. Nous avions vu, en effet, les plus tristes effets de cette méthode, bien qu'à la vérité la guérison s'obtînt aussi par elle. Nous avons cité, à ce sujet, un cas récent de l'un des praticiens Anglais, dont nous estimons le plus les travaux, M. Syme, lequel divise largement avec le bistouri non seulement le kyste, mais encore le ligament annulaire du carpe. Cette citation n'a été accompagnée de notre part d'aucune expression qui pût blesser, en quoi que ce fût, l'habile chirurgien de l'Infirmerie royale d'Edimbourg; la chose est facile à vérifier. Ceci cependant à excité, à ce qu'il paraît, la colère de l'honorable professeur: de là une sortie contre les chirurgiens *Gallicans*, qui font entonner la trompette avant d'obtenir les guérisons qu'ils proclament! Disons d'abord sérieusement à M. Syme qu'il s'agit ici d'une question pratique d'une grande importance, et non d'une affaire de paroles. Or, nous affirmons que la méthode des injections iodées a déjà donné des guérisons heureuses, positives, complètes et très promptes dans plusieurs cas de kystes hydatiques fort graves du poignet, où elle a été employée jusqu'à ce jour par M. Velpeau, par M. Chassignac, et par d'autres chirurgiens des hôpitaux. C'est là une pratique précieuse déjà acquise, et un chirurgien serait désormais coupable si, dans un cas de ce genre, il suivait encore l'ancienne méthode. Voilà pour le fait fondamental.—Maintenant, quant aux épithètes que vous nous adressez, vous seriez fâché que nous les relevassions!

THE FEVER ON BOARD THE STEAMER ECLAIR.

Public attention has been much occupied during the last ten days by a very painful episode in the history of our quarantine laws. The Eclair, a government steamer, forming part of the squadron on the coast of Africa, and which sailed from Devonport in November last only, was attacked in April with the coast fever. The disease rapidly increasing in intensity, and a considerable number of the crew having died, a consultation of naval surgeons was held, and it was determined to send the vessel home. It was then lying at Goree Buena Vista, where permission had been obtained of the Portuguese Governor to land the crew sick and well, and to cleanse and purify the vessel. The seamen and the sick had been located for some time in a fort, and the officers had been allowed to take lodgings in town, so as to admit of the ship being thoroughly purified by washing, whitewashing, fumigating, &c. Notwithstanding all these measures, however, the virulence of the disease had continued to increase, thirty-one men having died between the day of the steamer's arrival at Goree, on the 21st of August, and that of its departure, on the 13th of September. At Madeira, where the Eclair touched on the 21st, the authorities refused to allow any communication with the shore. Dr M'Clure, himself a volunteer, having died on the voyage to Madeira, Mr Bernard, a naval surgeon, then in that island, offered to take his place, and was received on board.

On Sunday, the 28th of September, the Eclair came up to the mother-bank

at Portsmouth, with the yellow flag, and a black ball in the centre, flying from her mainmast-head, emblematic of disease and death on board. On the quarantine officers going alongside, they ascertained the above particulars, as also, that sixty-five, out of the one hundred and forty-six officers and men, who composed the crew, had died; and that there were then twenty-three persons ill on board. The quarantine laws which regulate our ports are, it appears, so singularly constructed, that the naval and medical authorities of Portsmouth, one of our most important ports, and one which has constant and frequent intercourse with the east, the seat of the plague, had not the power to adopt any other measure, with reference to the ill-fated, fever-stricken vessel, than to place provisions within reach, and to establish a boat-guard around it, in order to prevent any communication with the shipping or the shore. Application was, however, at once made to head quarters, but owing to the accidental absence of the Superintendent-General of Quarantine, Mr W. Pym, it was not until the 30th, that that gentleman, accompanied by Mr Arnott, arrived at Portsmouth. Measures were then taken immediately to relieve the unfortunate crew of the Eclair from their pestilential abode. In the absence of lazarettos, two ships were brought alongside the steamer; the men and officers who had not been attacked by the fever, forty-one in number, were drafted into the one, and the convalescents into the other. The sick were left on board the Eclair, under the care of Mr Bernard. According to a report, dated the 3d of October, and published in the *Times* of the 8th, it appears there has been no new case of fever since the 28th, although there have been several deaths.

It is impossible to peruse the above facts without being struck by the powerless state in which the existing quarantine laws must leave the authorities of our great seaports. We cannot but believe, that had they been able to afford any relief to the unfortunate crew of the Eclair, on their own responsibility, they would have done so without a moment's delay, and not merely have ordered a number of boats to row round the devoted vessel, in order to prevent its unhappy inmates from escaping. It is heart-rending to reflect, that, after pursuing their dreary track across the ocean for several weeks, towards the hope-inspiring shores of Great Britain, the miserable crew should be detained on board their vessel, become a focus of infection and death for more than two days, before any relief could be administered to them. Most certainly this is a state of things that requires reform. It is a disgrace to the British nation, that the authorities in its ports should not be able to afford to our seamen, when attacked by disease, that succour and assistance which was so generously granted by the governor of a small Portuguese colony in Africa; and we sincerely trust this part at least, of our quarantine laws will speedily be modified.

The measures adopted by Mr Pym and Mr Arnott were judicious; but we do not see why the sick should have been left in the infected ship. Are their lives less valuable than those of their more fortunate ship-mates—the convalescent and the healthy? It is a singular fact, that not one of the Kroomen sailors, who are natives of the African coast, have been attacked.

We cannot conclude these remarks without paying a tribute of respect to the memory of the late Dr M'Clure. This gentleman was a naval surgeon, passenger in another vessel, the Growler, but volunteered at Bueña Vista to take charge of the Eclair, on her passage home. He has perished a victim to his noble intrepidity, and his name is one more to be added to the long list of medical men who have sacrificed their lives in the cause of humanity. Mr Coffey, assistant-surgeon to the Growler, who also volunteered, has been more fortunate, for he survives, as well as Mr Bernard, who volunteered at Madeira, as we have already stated. The medical profession in Great Britain has every reason to be proud of these three gentlemen; they have shown a noble example by thus volunteering to occupy the post of danger in the exercise of their art. Mr John Maconchy, the surgeon of the ship, fell an early victim to the disease.

The following is the official report to the Admiralty respecting this matter:—

To C. C. F. Greville, Esq. October 3, 1845.

Sir,—Agreeably to instructions from the Lords of her Majesty's Council, we

proceeded to the quarantine station at the Motherbank early on the morning of the 30th, to inquire into the particulars connected with the mortality and the prevalence of a malignant fever on board her Majesty's steamer Eclair, which arrived on the evening of the 28th ult., from the coast of Africa. Having gone alongside, and interrogated the Commander Harston, and Surgeon Bernard, the following is the result of our inquiries. L'Eclair sailed from Devonport in November last, having a crew of 146 officers and men, for the coast of Africa, on which station she remained until the 23d of July last, up to which period she had lost nine men from the common coast fever. Four days after sailing from Sierra Leone, one man died with fever and black vomit, the first case of the kind which had taken place; this man had been brought on board, on the morning of the 23d, having been the three previous days on shore. During her voyage to Gambia and Goree Buena Vista, where she arrived on the 21st of August, eighteen were attacked with the same fever, with black vomit, of which number thirteen died. At Buena Vista the disease continued to spread rapidly amongst the crew, when permission having been obtained from the Portuguese governor, it was determined to land the crew, sick and well, and purify the vessel. A fort was appropriated for the accommodation of the seamen and sick, and the officers obtained lodgings in the town. Every measure was taken to purify the ship by washing and whitewashing, fumigation, &c., all the Kroomen remaining on board, with the exception of six employed in attendance upon the sick. The disease, however, continued to prevail amongst the officers and men on shore, thirty-one men having died between the 21st of August and the 13th of September.

Under these circumstances a consultation was held by three naval surgeons, and upon their report and recommendation it was determined that the steamer and crew should proceed to England. The ship's company were in consequence re-embarked, and sailed on the 13th September. Captain Escourt, having been taken ill the day before leaving Buena Vista, died on the 16th. At Buena Vista, the assistant-surgeon Harte of the Eclair, died, when Mr M'Clure, a naval surgeon, passenger in the Growler, and Mr Coffey, assistant-surgeon of the Growler, volunteered their services on board; here also seven seamen volunteered from the Growler. Mr M'Clure died on the voyage to Madeira, and one of the volunteer seamen was taken ill of the fever and recovered.

Upon the arrival of the steamer at Madeira, the authorities refused permission to communicate with the shore, as had been previously done by the French at Goree; but at this island Mr Bernard, a naval surgeon, volunteered his services, and was received on board, with two seamen. From the day of her sailing from Madeira, the 21st of September, up to this date, the 30th, seven deaths have taken place from the fever, and eight new cases have occurred, viz.

Deaths.				Fresh Cases.			
2	on the	21st	of Sept.	1	on the	22d	of Sept.
1	„	25th	„	1	„	23d	„
1	„	26th	„	2	„	25th	„
1	„	28th	„	3	„	26th	„
1	„	29th	„	1	„	29th	„
1	„	30th					
—7							

The fever still prevailing on board, the first measure deemed necessary was that the ship should be kept in strict quarantine.

2. That the healthy should be separated from the sick. The steamer was therefore ordered to the Four Bill Quarantine Station at Standgate Creek; and an arrangement having been made with the Lords of the Admiralty by which two ships in ordinary, with a proper supply of bedding, &c., were ordered to be placed at the disposal of the Superintendent of Quarantine at Standgate, with the view of personally superintending the arrangements, we proceeded to Standgate Creek, and having ascertained the number of officers and men who had hitherto escaped an attack of the fever,—viz. forty-one, they were directed to be immediately transferred to the Revenge, having first undergone the operation of ablution, and afterwards supplied with clean clothing and bedding.

All those who had recovered from the fever, together with such number of convalescents as were in a state to be moved, were directed to be transferred to the Benbow, leaving only on board the steamer the sick, and such number of officers and men as the commander might think necessary; the Kroomen also to remain on board (not one of whom had been attacked with fever,) excepting such number as might be thought necessary to assist on board the Revenge or Benbow.

Since the 30th ult., three seamen have died, but we are happy to state that no fresh case of fever has occurred since the 29th ult., and that at present there are only two men confined to bed with the fever, and eleven convalescents, under the care of the two medical officers, a surgeon and assistant-surgeon, who have been on board ever since the Eclair sailed from Madeira; and we have a confident hope, from the present state of the crew, and the measures adopted, that the progress of the disease is arrested. We have the honour to be, Sir, your obedient servants,

W. Pym, Superintendent-General of Quarantine.
James M. Arnott.

THE LATE DR JAMES JOHNSON.

It would be treason to the Literature of Medicine, and a wrong to the memory of an able physician, to suffer the death of Dr James Johnson to pass without some notice. If the pursuit of knowledge under difficulties is honourable—if its attainment by incessant industry is laudable—if the example of a man rising without friends, or family, or wealth, to a high place in his profession, and to general estimation with the public, is calculated to be useful to those whose career is yet to be run—then a sketch of the life of Dr James Johnson will not be without its value. We regret that our space is too limited to admit of such ample details as we could wish; but that regret is diminished by the conviction that the present editors of the *Medico-Chirurgical Review* will supply our deficiencies.

James Johnson, or, rather, Johnston, for such was really his name, was the youngest son of a family of Scotch extraction, settled on the banks of Lough Neagh, in the county of Derry, in Ireland. Like Cobden, he might boast that he was a "farmer's son." Born in February 1777, and dying on the 10th of October 1845, he was in his 69th year at the time of his decease. His early education, such as it was, he obtained at a grammar-school, kept by a Catholic pedagogue, the brother of the parish priest. The village school-boy was the type of the future man; for he confessed that he was miserable when not at the head of his class, and would sit up till midnight conning the lessons of next day. At the age of fifteen, this instruction, whatever its amount, was at an end, and we may readily suppose that it formed a small portion of that varied extensive, and miscellaneous information which distinguished him in after life. He was now apprenticed to a surgeon-apothecary in the county of Antrim, whence he was transferred to another in Belfast, and, at the end of four years, went to London, without either money or friends. The manner in which he contrived to obtain an acquaintance with anatomy and surgery, at long intervals and by brief instalments, might shame the sybaritic students of our day. In 1798, he passed an examination as surgeon's mate, in the Navy, and was appointed to the Mercury frigate, where he devoted every hour to study, visiting the naval hospitals whenever the ship was in harbour, and winning the golden opinions of his captain, who winked at his absence from the ship for some months in the winter of 1799, when he worked night and day in London. At the age of 22, he was made full surgeon in the Navy, and accompanied the expedition to Egypt. His fatigues and exertions produced an illness which compelled him to return to London, where he studied in Great Windmill Street, under Mr Wilson, who stated in a certificate, that he actually *lived* in the dissecting-room. He had expended his last guinea, and midwifery lectures were yet to be obtained.

He applied to Dr John Clarke, who, with characteristic generosity, instantly gave him a ticket of admission, and invited him to his table.

In 1803, he sailed for the East, and during the next three years, in India and in China, he laid the foundation for his first, and perhaps, most permanent work, *The Influence of Tropical Climates on European Constitutions.* Of that work, it is only necessary to observe, that it is distinguished for soundness of physiological views, acuteness of observation, and variety of matter. It is still the text-book of the tropical practitioner, and is likely long to continue so. In autumn 1806, he married Miss Charlotte Wolfenden of Lambeth, who now survives him, and by whom he has had six children. The eldest and the youngest have followed the profession of their father; the former, Mr Henry James Johnson, being assistant-surgeon to St George's Hospital, and the latter, Mr Alliot Johnson, residing there as house-surgeon. The work on Tropical Climates was not published till 1812, and then at his own risk and expense. Its success was decisive, though not immediate. In 1809, he was at Walcheren, and this and his Indian expedition sapped the vigour of a constitution naturally excellent; for, in the East, he suffered from dysentery, which was destined to cut him off at Brighton, after the lapse of 40 years,—and at Walcheren, he contracted ague, which, as has been the case in many instances, re-appeared in London, and nearly proved fatal to him there.

At the peace of 1814, Dr Johnson served in the 'Impregnable,' when the late King William IV., then Duke of Clarence, hoisted his flag, for the purpose of conveying the Emperor of Russia, King of Prussia, &c., to this country. He attended his Royal Highness during an attack of "hay-fever," and so pleased was the Duke with him, that he made him his surgeon-in-ordinary, appointed him "physician extraordinary" on his accession, and always treated him with a considerate kindness.

At the conclusion of the war, Mr Johnson settled at Portsmouth, as a general practitioner, and was getting into good practice, when ambition and ill health both prompted him to try his fortune in London. He had taken out a Scotch degree, possessed about five hundred pounds, had one friend in the metropolis, Sir William Young, and with this stock of worldly means he committed himself, at the age of 41, with a wife and five children, to the mercies of the modern Babylon. Though weak in body, of nervous temperament, and desponding turn, he had that determination and singleness of purpose which discards "impossible" from its vocabulary; like Sheridan, he probably felt "it was in him, and must come out."

It was a bold step for a moneyless and a friendless man to start in London:—it was bolder, at his own risk and expense, to originate at the same moment the *Medico-Chirurgical Review.* But its success was at once the omen and means of his own, and no quarterly medical journal has ever attained a larger circulation, or exerted wider influence. His labours for a long period were arduous—practice in the day was succeeded by the toils of the desk at night; and for fifteen years he wrote every page of a work of considerable bulk, and remarkable for the condensation of its matter. This could not go on for ever. Hæmorrhoids and fistula, for which he was operated on by the late Sir Astley Cooper, and the present Mr Guthrie, were followed by dyspepsia, in such an aggravated form as those only can understand who know what the malady is to a nervous frame, exhausted by bodily and mental labour. But out of evil comes good. His own sufferings directed his attention to the subject of Indigestion, and were the immediate cause and indeed foundation of his essay upon that complaint. The publication of that work at once raised his practice to as high a pitch as was compatible with his own inclinations and strength. The remainder of his life was as active, though not as chequered and anxious as that which had gone before. Incessantly occupied with his patients, the Review, his various works, (for he was an author to the last), and his tours of health, in which he engaged with all the ardour of a boy, he could scarcely have been said, except in sleep, to have passed an unoccupied hour. His meals were hurried, he entered into no society, and his life

would not seem to have much of enjoyment in it. But it suited his tastes, and was the natural fruit of that restless energy which had made him all that he was. A mere enumeration of his published works, none of them compilations, will be sufficient evidences of his industry, some of them, at least, of his talent as a writer. The list will be found below.

It only remains to weigh, in a few words, his public and private character. The latter is easily disposed of,—a good husband, a most kind father, a warm-hearted generous man, his memory is embalmed in the affectionate remembrances of those who were connected with him. As an author, he was remarkable for facility of composition, a felicitous, though not always a correct style, and an original vigour and raciness of observation and expression that redeem some faults, and make his works eminently readable. He may almost be called the Cobbett of Medical Literature, the same boldness, terseness, and straightforwardness being characteristic of the writings of both. The popular seal of success has at all events been set on all he wrote, whether professional or general. Every production of his pen has met with a large sale, and most of them have gone through numerous editions.

As a practitioner, he was, in many respects, a model. Simple, unostentatious, his kindness was proverbial, and probably no man, since Dr Baillie, has been more beloved by his patients. His liberality amounted to a fault, (being oftentimes imposed on,) and almost indiscriminate. It has curtailed what might have been a large private fortune, but it has achieved its object, for it gratified a kindly disposition, and ministered to the necessities of others. Peace to his ashes, for they are those of an able, and what, perhaps, is better, of a good man.

Works by Dr James Johnson:—

Tour in Ireland, with Meditations and Reflections.

Influence of Tropical Climates on European Constitutions; with additions by J. Martin, late Presidency Surgeon, and Surgeon to the Native Hospital, Calcutta.

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Pilgrimages to the German Spas.

Excursions to the Principal Mineral Waters of England.

The Medico-Chirurgical Review.

BOOKS RECEIVED.

(*Continued from page 640 of the August number.*)

96. Elements of Materia Medica and Therapeutics. By Edward Ballard, M.D. Lond.; and Alfred Baring Garrod, M.D. Lond. 8vo, pp. 447. London: 1845.

97. Nature and Treatment of Gout. By W. H. Robertson, M.D., Physician to the Buxton Bath Charity. 8vo, pp. 372. London: 1845.

98. Medical and Physiological Problems in disputed points of Medical Practice. By William Griffin, M.D.; and Daniel Griffin, M.D. 8vo, pp. 356. London: 1845.

99. Mesmerism in 1845. By J. B. Estlin, F.L.S. 16mo, pp. 29. London: 1845.

100. Mesmeric Experiences. By Spencer T. Hall. 12mo, pp. 103. London: 1845.

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25	2	2	7	46	3 17 11	25	1	19	2	46	3 11 10
26	2	3	10	47	4 0 7	26	2	0	3	47	3 14 2
27	2	5	1	48	4 3 7	27	2	1	5	48	3 16 11
28	2	6	4	49	4 6 11	28	2	2	8	49	3 19 11
29	2	7	7	50	4 10 7	29	2	3	10	50	4 3 4
30	2	8	10	51	4 14 7	30	2	4	11	51	4 7 1
31	2	10	1	52	4 18 11	31	2	6	1	52	4 11 0
32	2	11	4	53	5 3 6	32	2	7	3	53	4 15 2
33	2	12	9	54	5 8 5	33	2	8	6	54	4 19 9
34	2	14	3	55	5 13 8	34	2	9	11	55	5 4 7
35	2	15	10	56	5 19 4	35	2	11	4	56	5 9 9
36	2	17	6	57	6 5 5	36	2	12	11	57	5 15 4
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From St. George's Hospital, *Hyde Park Corner.*

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Thomas K. Chambers, M.B.

To Messrs. Kemp & Co.

From Sir James M'Grigor, *Bart., Director-General Army Medical Department.*

No. 12697. Army Medical Department, 17th April 1843.

Gentlemen,—I transmit herewith, for your information, an extract of a letter.

To Messrs Kemp & Co. J. M'Grigor.

Extract of the Letter above referred to by Sir J. M'Grigor, *from* Dr Smith, *Principal Medical Officer, Chatham, Fort Pitt, 12th April* 1843.

The Galvanic Apparatus of Kemp & Co. has been regularly used in this General Hospital since it arrived in February 1841, and has been found very well adapted for common use, and very efficient as compared with the machine previously in use.

And^w. Smith, M.D., Staff-Surgeon, P.M.O.

To Sir James M'Grigor, Bart., Director-General, Army Medical Department.

From Thomas Stewart Traill, Esq., M.D., *Professor of Medical Jurisprudence in the University of Edinburgh.*

Edinburgh University, December 7, 1841.

Gentlemen,—I have examined your Electro-Magnetic Coil Machine with much interest, and consider it as by far the most effectual and economical apparatus hitherto employed for the Medical application of Voltaic Electricity. It affords a more powerful series of shocks than a very large and extensive trough on the common construction; the fluids employed to excite it are cheap, and their action will afford an undiminished current of Electricity for many days. The Machine requires a small amount of skill or attention to keep it in order; and you afford it at a very moderate cost. It is therefore particularly valuable in Hospitals and other Medical Institutions, where the inefficacy of the ordinary apparatus, and the difficulty of having it in order when required, have thrown discredit on Medical Electricity.

To Messrs Kemp & Co., Edinburgh. Thomas Stewart Traill.

From Sir George Ballingall, F.R.S.E., *Surgeon to the Queen, and Professor of Military Surgery in the University of Edinburgh.*

College, 8th December 1841.

Gentlemen,—I can have no hesitation in expressing my concurrence with my colleague, Dr Traill, and others, as to the efficiency and economy of your Apparatus for administering Electricity.

Messrs Kemp & Co. Geo. Ballingall.

From David Craigie, Esq., M.D., F.R.S.E., *Physician to the Royal Infirmary of Edinburgh.*

Edinburgh, 43 Queen Street, 25th October 1841.

I have often examined and seen in operation the Electro-Magnetic Coil Machine, improved by Messrs Kemp, and I feel justified in saying, that in comparing it with other instruments intended for the same purpose, it possesses over them the great advantage of being much more energetic, much more uniform, more easily kept in order and applied, and infinitely less likely to go wrong, than other instruments of the same nature. I must therefore give the decided preference to yours for all purposes requiring the Electro-Magnetic Apparatus in the practice of Medicine.

To Messrs Kemp & Co. David Craigie, M.D.

[*See next page.*]

Messrs Kemp's Advertisement—*Continued.*

From P. D. Handyside, Esq., M.D., F.R.S.E., *Acting-Surgeon to the Royal Infirmary of Edinburgh.*

Edinburgh, 24 Duke Street, 18th December 1841.

I have frequently employed, as a remedial agent in disease, Messrs Kemp's Electro-Magnetic Coil Machine, and find it a very convenient and efficient apparatus. It is more easily regulated in its power, and is more applicable in practice, than any other modification of the instrument with which I am acquainted. P. D. Handyside, M.D.

From John Reid, Esq., M.D., *Professor of Anatomy and Medicine in the University of St Andrews, formerly Pathologist and Superintendent to the Royal Infirmary of Edinburgh.*

I had very frequent opportunities, during my official connection with the Edinburgh Royal Infirmary, of witnessing the application and the effects of the Electro-Galvanic apparatus furnished by Kemp & Co., and I entertain a very high opinion of the manner in which that apparatus enables us to use Electro-Galvanism as a remedial agent in those diseases in which it is applicable.

25th November 1841. John Reid, M.D.

From James Miller, Esq., *Professor of Surgery in the University of Edinburgh.*

Edinburgh, 23 York Place, 5th October 1842.

I have frequently in practice made use of Messrs Kemp & Co.'s improved Electro-Magnetic apparatus, and being abundantly satisfied of both its efficiency and convenience of application, gladly concur in the commendation it has already received from various members of the profession. James Miller.

From James Syme, Esq., *Professor of Clinical Surgery in the University of Edinburgh.*

Charlotte Square, 12th October 1842.

The Messrs Kemp's Galvanic apparatus is by far the most convenient and efficient for Medical purposes that I have had occasion to see in employ. James Syme.

From J. Y. Simpson, Esq., M.D., *Professor of Midwifery in the University of Edinburgh.*

22 Albany Street, 16th October 1842.

I have repeatedly used for Medical purposes the Galvanic apparatus of the Messrs Kemp, and have been greatly pleased both with its perfect facility of application and its efficacy.

J. Y. Simpson.

From Allen Thomson, Esq., M.D.. *Professor of the Institutes of Medicine or Physiology in the University of Edinburgh.*

89 George Street, Edinburgh, 24th October 1842.

I am well acquainted with the Electro-Magnetic apparatus of Messrs Kemp, and I am happy to add my testimony to the many already given of the neatness and skill with which it is constructed, the great ease with which it may be used, and the efficiency of its application.

Allen Thomson, M.D.

From W. P. Alison, Esq., M.D., *Professor of the Practice of Physic in the University of Edinburgh.*

Edinburgh, 28th October 1842.

I have frequently directed the employment of Messrs Kemp's improved Electro-Magnetic apparatus, and seen it in operation, and it seems to me the best and most manageable means of applying Galvanism medicinally that I have seen. W. P. Alison, M.D.

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NO. LX.—DECEMBER 1845.

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THE

LONDON AND EDINBURGH

MONTHLY JOURNAL

OF

Medical Science.

No. LX.] DECEMBER. [No. XII. OF 1845.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Case in which the Cæsarean Section was performed on account of a Pelvic Tumour preventing Delivery. By* WILLIAM LYON, ESQ., *lately one of the Surgeons to the Glasgow Royal Infirmary.*

(*Read October* 21, 1845, *to the Glasgow Medical Society.*)

THE accumulation of numerous individual facts forms the only correct basis from which the propriety and safety of operative interference ought to be inferred. It is by comparison of different procedures, that their respective value can alone be ascertained; the results in one description of cases serve as guides in others closely analogous; and a knowledge of the causes demanding operation, is one of the most important and difficult acquirements of the surgeon. I deem it my duty, as bearing on all those points, to offer my mite of information to the profession, by narrating the following case in which I recently performed the Cæsarean Section; an operation comparatively rare, therefore at least interesting; eminently hazardous, and in the case about to be described, fatal; nevertheless, calculated to be useful in determining procedure in similar cases; and on that account, I consider the profession entitled to be made acquainted with its particulars.

HISTORY OF THE CASE.

On the forenoon of 25th March last, I was asked by Mr William Young, surgeon, Parkhead, to visit with him Mrs R—, residing at Shettlestone, a young healthy woman in labour at the full time, of her first child.

Mr Young had first seen the patient two nights previous to the day we visited her; since which time the pains had been slight, but

frequent. We found her health undisturbed, and proceeded to examine a tumour in the hollow of the sacrum, which Mr Young had observed at his first visit; and which was the reason for asking me to see the patient with him.

The pelvis, from one sacro-sciatic notch to the other, and from the junction of the sacrum with the coccyx to the brim, was occupied by a tumour the size of a child's head. It projected so far forwards at the brim, that two fingers placed side by side, and the one side directed forwards, and the other backwards, could, *with difficulty*, be passed between it and the pubes; and it diminished in size below, or receded so much into the hollow of the sacrum, that three or four fingers-breadth intervened between its inferior part, and the arch of the pubes. It was globular in front, and laterally, gradually merged into, and apparently united with the pelvis; it felt all over very firm,—at some parts superiorly, of osseous hardness, and at others obscurely elastic. Strong pressure on it occasioned pain, but whether in the soft tissues covering it, or in the body of the tumour, could not be ascertained. In various positions of the patient, it felt quite immoveable, though strongly pressed in every direction; and it could not be influenced by depression, elevation, or any other motion of the uterus and child. The rectum passed in *front* of the tumour, and the posterior part of the bladder touched its anterior surface. With some difficulty the os uteri could be reached:—of course above the pubes and superior and anterior part of the tumour. The os was soft, oblong, in the transverse direction of the pelvis, dilatable to the size of a shilling, as it had been at Mr Young's first visit, and was very slightly affected by the occasional pains.

The patient stated she had never suffered any injury of the pelvis; and at first assured us she had never had any feeling or symptom, indicating disease in that part of the frame.

She latterly, (with reluctance, however,) informed us, she had had upon three occasions, during the six immediately antecedent years, inability to pass urine, which on each occasion continued for several days, necessitating the employment of the catheter.

The feeling conveyed by the surface of the tumour, its partial elasticity at some points, its osseous hardness, its almost crackling under the fingers at others, the circumstance of the rectum being pushed in front of it, along with its *perfect immobility*, and the history of the case, led Mr Young and me to believe that it was connected with, or sprung from, the pelvis. On the other hand, its great size, and the degree to which it narrowed the antero-posterior diameter of the pelvis, almost convinced us that the patient could not be delivered without breaking down the tumour, or performing the Cæsarean section.

As there were not, however, any symptoms necessitating immediate interference, we agreed to delay for a short time, in order to observe the effect of the labour upon the tumour; but determining

not to allow the patient to become exhausted, and arranging to obtain the advantage of additional professional opinions.

Next day Mr Young saw the patient. The pains had been slight and frequent, and had not produced any change; she was otherwise in the same condition as before described. It was arranged with Drs Macfarlane and James Wilson, that they should meet with us at the house of the patient in the evening. At this meeting we found her in every respect unaltered.

The size, position, immobility, and as far as ascertainable, the structure of the tumour were carefully re-examined. The opinions of all favoured the supposition that it was connected with the bone, was likely osteo-sarcoma, and that the sacro-pubic diameter of the brim was so narrowed, (scarcely permitting passage of the tips of two fingers,) that breaking up the fœtal cranium was, if practicable, certain to be attended with so much difficulty, that death of the mother would almost inevitably follow from the necessarily protracted operation, consequent exhaustion, and unavoidable injury to the soft textures.

It was not conceived possible for the evacuated fœtal cranium to be sufficiently diminished by the uterine action, to pass, though compressed to the utmost, through the slit formed by the pubes in front, and the unyielding structure of the tumour behind; while the pelvis was so filled inferiorly and superiorly, that the introduction of the fingers and part of the hand, to reach the very high os uteri, and to direct the blades of the perforator or osteotomist, was concluded to be impracticable, or necessarily accomplished with so much violence as to be imminently dangerous.

A proposition was made to incise freely the posterior wall of the rectum, where it passed in front of the tumour; through the opening, to introduce a perforator, or other instrument, break up the structure of the tumour, and after evacuation of its contents, to wait the effect of the uterine action, in expectation that it might force down the unopened head into the then increased cavity of the pelvis.

This proposal was offered in the belief that the tumour was connected with the bone, and was most probably of osteo-sarcomatous structure; but was objected to and declined, because the shock of such an operation, the almost certainly great hemorrhage, the laceration of the sacral nerves, which, on the supposition on which the operation was offered, necessarily passed through the substance of the tumour; or a combination of all those consequences, was sure to occur, and either immediately or very soon, would *inevitably* destroy the patient; and would *positively* sacrifice the child.

It being found impracticable to dislodge the tumour from the pelvis; without probable fatal violence to the mother, to break up the child, or the substance of the tumour; and the extensively solid structure of the latter being supposed to render puncture unavailing, the Cæsarean section was conceived our only resource.

Considering, however, the great hazard to the mother from that operation, and balancing all particulars between it, and the practicability, difficulty, and danger of embryulcia, with the destruction of the child by the latter, it was finally agreed, that, if on examination the child should be found alive, preference should be given to the Cæsarean section: as by it there would be nearly certain safety for the child, while if the disease were malignant, it signified little to the mother what operation was performed.

Employment of the stethoscope decided that the child was alive; the fœtal cardiac pulsation, and souffle of the placenta, the latter seemingly at the posterior part of the fundus, being at once evident.

This decided the line of conduct agreed to be pursued, and all the particulars of the case, with the different methods of treatment capable of being followed, and our reasons for preference of the Cæsarean section being explained to the patient and her relatives, they immediately assented to be guided by our recommendation.

The bladder having been with some difficulty emptied by introduction of the catheter, the preparations were in a few minutes completed. While the patient lay on her back in bed, and a large fold of skin was held up over the lower half of the linea alba, I pushed the scalpel through the fold, and allowing the skin to resume its place, I had an incision six or eight inches long in the median line of the abdomen. I now carefully divided a small portion of the tendinous tissue over the projecting fundus uteri, and perceiving through the translucent peritoneum, that no portion of intestine intervened between the membrane and the uterus, I opened the abdominal cavity, introduced two fingers, and holding them apart, to act as directors to the knife, and so as to feel if any of the abdominal contents were in the way, I carried the knife downwards to within half a hand-breadth of the pubes, and had thus an incision through the entire parietes, of eight or ten inches in length.

The whole was the work of a few seconds. The anterior part of the fundus of the dark red uterus being divided, the circular fibres contracted strongly, and drew widely asunder the margins of the copiously venous-bleeding wound, which, by a few touches of the knife, was deepened until the uterine cavity was entered; when carrying the fingers as before, the incision in the uterus was made of nearly equal size to the wound in the abdominal parietes. Observing that there was little, if any, liquor amnii, the membranes were quickly ruptured, and the limbs and body of the child taken hold of; but so rapidly and forcibly did the uterus contract around the head, that it was not until I had slid down my left hand behind and below the head, that I was able to lift up and extract the large, and immediately vigorously crying child. Dr M'Farlane grasped the uterus as the head of the child was being withdrawn, when the placenta was almost instantly extruded and removed.

At this time portions of intestine protruded over each side of the abdominal incision, and were covered with soft towels wrung out of

tepid water, which, in anticipation of being required, had been kept in readiness.

Only small quantities of blood escaped from any of the incisions, not more than three or four ounces being altogether lost. Dr M'Farlane continued to grasp the uterus until the portions of intestine were returned, an act which was easily and expeditiously effected. The margins of the divided abdominal parietes were then held together, and retained by seven or eight points of interrupted suture, so inserted as not to include the cut edges of the peritoneum, and the sutures were supported by strips of adhesive plaster, compresses, and a broad bandage.

I do not think the whole procedure, dressing included, occupied more than eight or ten minutes; the patient did not complain much, her pulse never in the least flagged, and immediately after the dressing, and for three-quarters of an hour afterwards, only numbered 84, and was of good strength.

Immediately after the operation, she had two grains of opium, and a similar quantity was ordered to be repeated every two hours, *until sleep was obtained*, all of us supposing it of the utmost consequence to abate pain, procure sleep, and thus diminish irritation for a considerable time after the operation, as by so doing it was conceived the best chances were afforded for preventing collapse, or, if reaction took place, for averting inflammation.

She was likewise ordered to avoid every unnecessary motion, and only to use the smallest quantities of drink, or food.

Mr Young agreed to remain with her during the night, and the rest of us left about three-quarters of an hour after the operation.

I visited her with Mr Young on the following morning; the first glance gave convincing proof of an unfavourable change, her aspect being haggard, sallow, and expressive of distress. She had not slept, had vomited, felt uncomfortable, and been restless. She was now perfectly sensible, very weak, cold, and exceedingly distressed. Her pulse was small, soft, and rapid, the abdomen free from pain, but tympanitic, and the bandage and sheet *were soaked with blood*. I immediately removed the bandage, when blood oozed copiously from the lower part of the wound, but I could not ascertain whether it had flowed from the abdomen, or from the vessels in the cut parietes. There was no dulness on percussion, which there would have been if much extravasated blood had been present, and there had not been more than slight vaginal discharge, which likely would have been the case, had there been copious hemorrhage, whether proceeding from the abdominal parietes, or from the cavity or substance of the uterus.

Seeing the depressed and apparently hopeless condition of the patient, I contented myself with an application of a thick compress over the source of oozing,—application of a dry bandage, and the recommendation to give frequently small quantities of wine.

When I saw her at night, there had not been any farther bleed-

ing, but all the unfavourable symptoms were aggravated; and she died next morning, having lived 36 hours after the operation.

AUTOPSY, FORTY-EIGHT HOURS AFTER DEATH.

Countenance sunken, and surface of body completely blanched. No adhesion of lips of wound in abdominal parietes; no blood in peritoneal cavity; no appearance of inflammation having existed.

Uterus about the size of a cocoa-nut, lay with the os immediately above and behind the pubes, and fundus directed to left ilium. The wound, now diminished by contraction of the organ to 4 or 4½ inches in length, was seen anteriorly; its external margins were separated a quarter of an inch, and the internal were in contact, but not adherent.

Upon drawing aside the uterus, the brim of the pelvis, from the promontory of the sacrum to the symphysis pubis, was found almost entirely occupied by the superior surface of the tumour, there not being more free space (about three quarters of an inch) than permitted the open hand, held with its dorsal and palmar aspects anteriorly and posteriorly, to be pushed downwards behind the bladder.

Upon *now* pressing the tumour strongly, and grasping it to ascertain its connections, it felt *indistinctly* moveable, but could not be displaced. The vagina, so much elongated as to permit the os uteri to remain at the upper part of the narrow space between the pubes and sacrum, was therefore cut across, in order to obtain a better view of the tumour and interior of the pelvis; but upon drawing the uterus upwards, the fundus was found to be held down by the left lateral ligament, and upon closer examination, the left ovarium could not be perceived. The enlarged and thickened left lateral ligament was traced downwards, when it was found to wind to the outside, and then behind the lower part of the sigmoid flexure of the colon, and superior portion of the rectum, where it was attached to the tumour filling the pelvis. Considerable traction was made, by taking hold of the uterus; but the part to which the left lateral ligament was attached could not be brought into view. Guided by the stretched ligament, the hand was passed behind the rectum, and behind and before the tumour; where, lacerating adhesions, and at same time pulling by the uterus, the tumour suddenly, and with a clunking sound, slipped out of the pelvis.

It was of irregular ovoid form, as large as the full-grown fœtal head, and of firm, almost cartilaginous consistence. Upon dividing its thick cartilaginous parietes, several cysts, also with cartilaginous walls, were exposed, and likewise a considerable thickness of *solid*, homogeneous structure, probably the normal substance of the ovarium. The main bulk of the tumour was formed by a large cyst filled with a mixture of adicopere-like matter, hairs, bones, and part of the foot, of a seemingly full-grown fœtus, of which I possess a portion, covered with normal integuments, and with two

of the toes and their metatarsal bones attached. We had no means of ascertaining either the *exact* weight or measurements of the tumour. The cavity from which the tumour had been withdrawn had well-defined limits, and was narrowest at the neck or entrance, much like a hernial sac. It was bounded posteriorly by the pelvic fascia, anteriorly by the rectum, and in front and at the sides of that intestine by the peritoneum, forming the meso-rectum. It appeared as if the ovarium, having slipped behind a fold or depression of the meso-rectum, had gradually fallen downwards between the two layers of that membrane, and pushed the rectum to the front. The tumour had been retained in the situation which it has been described as having occupied, by forming adhesions with the internal surface of the peritoneum forming the meso-rectum, and also with the surface of the pelvic fascia.

REMARKS.

There are, I think, some practical points connected with this case, which are probably worthy of brief consideration.

Tumours of various kinds, and in different situations of the pelvis, have been met with, obstructing labour.[1] Among these, none are of more if as frequent occurrence, as enlarged prolapsed ovaria.

Besides distention from the presence of a fœtus, as in the case narrated, the enlargement may depend on simple increase in the size of the organ; or, to that condition various changes of structure may be superadded.

It is enough, as bearing on obstetric practice, however, to recollect, that in a great majority of cases, the enlargements are associated with, or are dependent on the existence of cysts, those cysts having fluid, or at least soft contents.[2] So long as ovaria, so affected, float during pregnancy in the abdomen, they are comparatively innocuous; but they may induce, or, by changing the normal axis of the uterus, retard labour. When situated at the brim, their injurious effects are likely, from the increase of pressure, to be greater; and when within the pelvis, as in Mrs R—'s case, their consequences are still worse; but, in all the instances, they will be proportioned to the size, position, compressibility, and mobility of the tumour. Not only is the locality of such tumours various, but the situation where they are found is not necessarily that in which they originate. In the instance I have detailed, probabilities are, I think, in favour of the opinion, that the enlargement commenced while the ovarium was still low in the pelvis, when, slipping into a fold of the meso-rectum, it descended, became sacculated and adherent.

On the supposition that prolapsus took place subsequent to considerable enlargement, at any rate, it is difficult to conceive how the organ could have become entangled or lodged in a fold of the

[1] Theory and Practice of Midwifery. Churchill, 1842, p. 212.
[2] Ingleby's Obstet. Med., p. 118.

peritoneum, forming the meso-rectum, for a sufficient time to have formed a sac for itself.[1] In other instances the diseased ovarium may, from want of space, be prevented rising, by the constantly augmenting gravid womb; or it may at first ascend, for a time float loosely in the expanded part of the pelvis, or lower part of abdomen: from pressure, or sudden alteration in the relation of parts, prolapse below the largest diameter of the uterus, and thus be farther depressed and kept in the pelvis.

Even when loose in the abdomen, such tumours may, by causing obliquity of the uterus, very much impede and retard delivery.[2] In Mrs R—'s case, the same effect was produced in a different manner. Upon inspection, the fundus uteri was seen directed to the *left side*. This was occasioned by the left lateral ligament attached to the prolapsed ovarium, which must have kept up much more lateral obliquity when the fundus was high previous to delivery, and was probably one of the causes why the frequent labour pains were slight, and almost ineffective, in dilating the os uteri.

We would suppose that tumours of this kind may, (influenced a good deal by size, and the length of their attachments,) be met with at almost any part of the pelvis. Their more common situation, however, is the recto-vaginal septum, or sac formed by reflection of the peritoneum, from the gut to the posterior surface of the vagina and uterus;[3] next in frequency is their appearance at the anterior part of the pelvis;[4] while I do not find on record any instance of *this form* of tumour having been met with at the posterior part, *behind* the rectum; where the diagnosis is more difficult; from projection backward of the uterus, and forward of the promontory of the sacrum, elevation is less easily effected, and obstruction to labour at least not *less* serious than in the other forms.

The enlargement in this case, of course, arose from the presence of a fœtus. In our ignorance of all minute particulars of the history, different opinions will be entertained, as to whether, and if, as to when, impregnation of the contained ovum occurred. It will be well, however, for a practical purpose, to bear in mind, that for any thing we know to the contrary, a perfect child, or at all events a child evolved at the same time as another contained in the uterus, may be met with in a similar situation as the one we operated for.

But we suppose the fact of repeated retention of urine, during the six years antecedent to the operation, and the presence of the large quantity of adicopere-like matter, coupled with the remains of cuticular, tendinous, and osseous matters, will lead many to believe, that conception of the fœtus found in the ovarium, preceded

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[1] It may admit of question, whether incarceration of the ovarium was not the cause of the ovum being detained.

[2] Ingleby's Obstet. Med., p. 119. [3] Ibid. p. 119. [4] Ibid. p. 219.

a long time that of the child for delivery of which the operation was performed. This opinion, which might question the chastity of our patient, she having been only married about nine months previous to the operation, we deem inconsistent with the confidence reposed in the surgeon by the patient, to discuss, and at the hazard of having our professional knowledge impugned, will prefer adhering to those who may insist, that the matters found in the ovarium were the remains of an irregularly and imperfectly developed ovum, vitalized consentaneously with the fœtus in utero; or, that they were not the effect of impregnation at all, but produced by some partial and abnormal action; or, like the masses of hair, teeth, &c., not unfrequently found in the ovaria, and other organs; or the fœtal remains in the abdomen and testicle of the male,[1] and like them, are proofs of the presence of an ovum by inclusion, at an early period of intra-ovarian, or in some of the cases it may be of intra-uterine life.[2]

While I state these explanations, I am perfectly aware of their real value, and suppose they will be considered better fitted for enabling a casuist to extricate himself from a dilemma, than to convince the cautious and judicious physiologist.

The diagnosis of such tumours is generally admitted to be as difficult as we experienced it;[3] they being often considered solid, when they have soft or fluid contents.

None of the signs—mobility,—*distinct* elasticity—fluctuation—given by Ingleby,[4] as characteristic of prolapsed ovaria, were present. On the contrary, it was immoveable—firm—at some parts felt like bone—did not fluctuate at any point—felt as if it gradually rose from the pelvis, there being no defined margin, as would be expected, if a cyst or tumour were pressed, however strongly, on a bone. It also lay *behind* the rectum, an unusual, if not unique situation for an enlarged ovarium, there being no normal receptacle for it, and thereby increased the probability which the osseous hardness, the immobility, and other conditions, caused to be entertained.

It will be granted ovaria so situated are not so favourably placed for examination, as tumours on the surface of the body, and yet with the advantage of light, and opportunities for detecting the presence or absence of fluctuation, we have seen tumours supposed solid, by an unintentional touch of their strong cyst with the knife during operation for their removal, cover the operator with their *fluid* contents. And on the other hand, it is not unusual in fungus of the antrum, in osteo-sarcoma of the maxilla, and other bones, for elasticity to be mistaken for fluctuation, and an incision, on the

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[1] Histoire des Anomalies, par St Hilaire. Ed. 1336, Tom. iii. p. 307.

[2] Ibid. p. 308, 312. *Vide* also MONTHLY JOURNAL, for 1845, p. 553, and p. 657.

[3] Churchill, Theory and Practice of Midwifery, p. 217. Ingleby, Obstet. Med. p. 120. Merryman, Med.-Chirurg. Trans. vol. x, p. 73.

[4] Obstet. Med. p. 120.

supposition of their being abscesses, give the first intimation of incorrect diagnosis.

The prolapsed and enlarged ovarium, raising and stretching the meso-colon, prevented the defined circumference of the tumour being felt; its being hitched under the promontory of the sacrum, and impacted, by the bulk and weight of the uterus, and by the action of the same organs, and the abdominal muscles; with farther pressure between the uterus, on the superior surface, and the stretched vagina, attached to the floor of the pelvis; aided by adhesion to the sac, explain the absence of mobility. The same causes, added to the solid portion, the thick cartilaginous cyst, the plastic consistence of the contents, the portion of the foot and osseous tissues, account for the absence of fluctuation, the deceptive tension, and the hard crackling sensation which led to the supposition of osteo-sarcoma.

The hardness, position, and immobility of the tumour did away with all risk of confounding it with either of the other two morbid states met with nearly in the same locality, viz. perineal hernia, the cause of the infrequency of which during labour is not to me very evident; and descent of the distended bladder into the anterior part of the vagina.[1] Either of these might be mistaken for a soft, fluctuating, prolapsed ovaruim, and in both, especially the hernia, the treatment, puncture, or incision, applicable to a prolapsed ovarium, would be of course highly dangerous. Pressure in the one case, and employment of the catheter in the other, would be the principal, if not only, modes of diagnosis, and consequently the measures for securing safety.

No effort of ours had the least effect in accomplishing what is evidently, when practicable, the first duty of the practitioner, viz. elevation of the prolapsed ovarium into the abdomen, so as to afford space for the passage of the child, liberty for the action of the uterus, and safety, by prevention of bursting of the tumour, and escape of its contents into the peritoneal sac.

This practice has frequently succeeded,[2] and we should think the best method of effecting it will be by placing the patient on her knees and elbows, so as to relax the abdominal muscles, and at same time permit the uterus and child to gravitate downwards. Pressure should now be made, in the absence of pain, upon the presenting part, so as to raise it out of or above the brim; while with the finger of the other hand, or probably with the whole hand introduced into the vagina or rectum, the tumour should be grasped, and pushed upwards, forwards, and downwards, so as to dislodge it from the pelvis.[3]

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[1] Churchill, p. 218.

[2] Merryman, op. cit. p. 76. Ingleby, op. cit. p. 80. MONTHLY JOURNAL, May 1845, p. 417.

[3] Velpeau, Traité des Accouchemens, Ed. 1833, Tom. 2, p. 205. MONTHLY JOURNAL, May 1845, p. 418.

We do not see the propriety, in any case, of delay, previous to attempting elevation: in the instance we have detailed, expectation of delivery by natural means could not be entertained, and we therefore determined on interference before the patient, or child, or both, had suffered from the labour: an important practical rule this, where instrumental measures are latterly unavoidable.

A small tumour, with soft or fluid contents, may suffer so much change of form or position from pressure during labour, as to permit passage of the child; or its parietes may be so thin as to lacerate, when the contents may escape into the abdomen, the vagina, or rectum.[1] On none of these had we reason to reckon, and, in opposition to Dr Churchilll, who, in his excellent treatise,[2] advises delay, if there is a probability of delivery by the natural powers, I venture to assert it unsafe, in such circumstances, to carry the advice so far as to permit the tumour to be subjected to violent pressure. For we cannot be aware of its exact structure. Some of them contain pus,[3] a fluid, escape of which into the abdominal cavity I have seen quickly destructive of life; and I believe it *always* is so, and was apparently the cause of death in the case referred to by Ingleby.[4] If such a tumour, therefore, cannot be elevated, and if it be so large, or in such a position as must cause it to suffer an amount of pressure endangering laceration of the cyst, and escape, for any thing we know to the contrary, of the—it may be—irritating or depressing contents into the peritoneal sac, we think such a risk should be avoided by puncture of the tumour from the vagina or rectum by means of a trocar and canula.

This operation has the sanction of numerous authorities; has been repeatedly successfully performed, and by often emptying the tumour, and thus diminishing its size, is, next to elevation, the speediest and easiest mode of expediting or terminating the labour. It is a practice we should suppose almost free of risk; a similar procedure when the dropsical ovarium floats in the abdomen being often executed almost with entire impunity. And even though it fails to reduce at all, or only partially reduces the bulk of the tumour, it permits application of the forceps if deemed otherwise admissible; a practice we have already insisted upon as being full of hazard, while we are ignorant of the exact nature of the contents.

We have adverted to the deceptive feeling conveyed by the tumour in Mrs R.'s case, leading to the belief of its being solid, when it partly contained soft matter; and a similar remark in regard to analogous cases is made by all the authorities I have consulted.[5] If this be correct, it ought in every case of this kind to be an established maxim, if the tumour cannot be elevated, and is of such size

[1] Ingleby, op. cit. p. 120, 123, 124.
[2] Op. cit. p. 114.
[3] Ingleby, op. cit. p. 125; Cooper's Surg. Dic. Lond. 1838, article Ovary, p. 1075; Monthly Journal, July 1845, p. 536. May 1845, p. 420.
[4] Op. cit. p. 125.
[5] Churchill, op. cit. p. 217; Merryman, op. cit. p. 52; Ingleby, op. cit. p. 120, 128; and others.

as to impede or prevent delivery, that partly, as already insisted on, for the purpose of preventing risk of its bursting into the peritoneal sac, but *principally* as the *only sure* mode of *diagnosis*, and when it contains fluid, as an easy and safe means of diminishing, and, it may be, of quickly and entirely getting rid of its effect in obstructing labour, to puncture it with a trocar and canula.

Our practice and our precept will appear inconsistent with each other; but, taught by the contrast between the feeling communicated during life, and the appearances in Mrs R.'s case, revealed by inspection, and by the united testimony of all who have had opportunity for judging as to the otherwise impossibility of correctly distinguishing such tumours with soft or fluid contents, from those entirely or partially solid: we would not now omit an exploration by puncture.

True, that, as would have happened in our instance, so it will be in many others; so much "homogeneous" or solid structure will remain, though all the soft or liquid contents are removed, as will still prove an insurmountable obstacle to delivery. But the practice can seldom of itself be injurious, may at once obviate all farther difficulty, is the only measure capable of giving positive information, and, we now think, should never be omitted.

The puncture has sometimes been made from the vagina—in other cases from the rectum. In Mrs R—'s case, the rectum, for evident reasons, would have been preferable. So far as consequences are concerned, I cannot see much preference of the one canal over the other, and would be decided by the part of the tumour which felt thinnest and softest, where of course the puncture would be easiest made, and most likely to procure fluid. In the rectum, however, it may be there would be inconvenience, or even danger, from escape of the feces into the emptied ovarium, or if elevated into the pelvis.

In a tumour of this kind, partly solid and partly fluid, as in a patient of Dr Merryman's,[1] and in ours, it will only be partially diminished by puncture. In those circumstances, *if the fluid has not been pus*, elevation should be again tried, as, from the diminution of bulk, there will be some chance of success; and if it fails, the effects of the labour pains, their assistance by the forceps, and if necessary, breaking up the presenting part, are open to choice.

In our case no diminution would have followed puncture, the contents being far too thick and viscid to have passed through the canula. Very nearly analogous conditions existed in a patient operated on in this manner by Dr Merryman;[2] and I am aware of an instance of the same kind which recently occurred in this city to Dr Menzies. In Dr Merryman's case, the canula being clogged with a substance of a greyish-white colour, and granulated texture, gave evidence of the nature of the contents. I can readily conceive

[1] Op. citat. p. 69. [2] Ibid. p. 56.

none of the matters may appear on the canula, or on the trocar; being wiped off as the instruments are being withdrawn; and I am certain the matter mixed with hair, and of the consistence of lard, would not in our case have entered the canula, and might have therefore altogether escaped observation. Drs Merryman and Menzies anticipated the matter would have been forced through the puncture by the effect of the labour. In this they were disappointed; and had it happened, as it was as likely to have passed in part into the peritoneal sac, as the canal from which the puncture was made, I know not, but that, like pus, its presence might have proven dangerous.

A consideration of these circumstances teaches, that where puncture does not give exit to all or to any of the contents, the canula, and it may be the trocar too, should be reintroduced, moved about to ascertain the consistence, and, as far as possible, the structure of the tumour, and, with a similar view, should be used in such a manner as to fill it with the contents, and be carefully examined when withdrawn.

Although all this had been done in the case I have detailed, none of the contents might have been seen in the canula, or on the trocar, and assuredly none would have passed from the puncture.

It becomes an important question, whether in similar circumstances, any other measures can be practised with a view to obtain diminution of the tumour, and whether these would be less dangerous than the procedure we adopted, or preferable to employment of the perforator and crotchet. In the instance I have referred to as recently having occurred in this city, puncture having failed to give exit to any fluid, or to afford any precise information, and a continuation of the labour for a considerable number of hours, having had, as may be supposed, no effect in emptying the tumour through the puncture, the latter was dilated or lacerated by the finger, a quantity of lardaceous matter removed, the head broken down, and the child extracted, but the patient having a copious purulent discharge, passing by the vagina from the seat of the tumour, became exhausted, and died some weeks after the operation.

Incision of the tumour, and removal of its soft contents, were, as already stated, proposed in Mrs R—'s case, but were declined, partly from the dread of laceration of the sacral nerves, and hemorrhage, and partly because all of us were impressed with the belief that so much hard, or at least solid matter would still remain, though the soft matter was removed, as would oppose an insuperable obstacle to delivery.

It turns out, that misled by the osseous contents of the tumour, our conclusion was, in so far as we supposed it entirely solid, incorrect; and from the observations adduced, we repeat, it is nearly certain all others are also likely to be mistaken, who in similar cases, trust to *any means of diagnosis*, short of exploration by puncture. And where puncture fails to reduce the size of the tumour;

and especially if the contents are found to be soft, but of such consistence as not to escape by the canula; or even though precise information is not obtained, other safe measures for the mother and child being impracticable, a free incision through the rectum or vagina, into the tumour, so as to permit entrance of the finger, or of a scoop, to remove its contents, or at all events ascertain its structure, appears to be a measure demanded for diagnosis, and likely in many instances to afford the most valuable practical results. The incision in our case would of necessity have been made in, and from the rectum. When we have a choice, extension of the wound by laceration, one of the dangers, might be obviated or diminished, by making the incision transversely to the canal of the vagina.

Supposing incision of the tumour determined on, I should think the best mode of performing it, would be, to introduce two fingers, or a speculum vaginæ into the rectum or vagina, as in the particular case might be deemed most advisable, and with a knife cutting at the point, and an inch or so from it, and slid along the fingers, or within the speculum; to incise the part of the bowel or vagina, on which the tumour might rest, the two layers of the peritoneum, and the cyst, to the extent of a couple of inches in a direction towards the floor of the pelvis. This would permit entrance of the fingers, and if the contents were pulpy, or the structure of soft consistence, or composed of cysts, the fingers or a scoop could easily effect their removal, or enable the operator to break them up, and then remove them. Or pressure by the action of the uterus might be trusted to, though I do not think this would be advisable. If the tumour were completely emptied, delivery would be soon effected; if the contents were only partially removable, elevation might be again tried, if escape of portions of the retained matter into the peritoneal sac, was not considered hazardous; or, with the reduced bulk, the forceps, or perforator, might accomplish the delivery.[1]

Supposing an error were committed by mistaking an osteo-sarcoma for a prolapsed ovarium, or that puncture and incision were practised on a prolapsed ovarium affected with malignant disease, how far it would be prudent to scoop out the contents and deliver, may admit of some doubt. So far as the mother is concerned, it will signify little, whether the tumour be emptied, or the Cæsarean operation had recourse to;—by the former, hemorrhage might at once destroy her;—from the latter, recovery would be nearly hopeless; and in either case, she could not long survive the effects of the diseased conditions. But there would be greater risk of the death of the child by hemorrhage from the mother, and the delayed delivery, in scooping out the tumour, than by the Cæsarean section; and the more prudent plan in such circumstances, would be to adopt the one or the other method, according to the specialties of the particular case, especially in relation to whether the child were

[1] Case by Dr Merryman—op. cit. p. 53.

at the time dead or alive. I am not aware that the incision of the prolapsed ovarium alluded to, has ever been practised;[1] at all events if it has been executed, it has been so seldom, that we want sufficient data, either as to its effects in expediting delivery, or of its immediate or remote consequences on the mother. Mr Menzies' patient already referred to, had constant discharge by the vagina from the cavity of the tumour, from the time of her delivery, until the period of her death; and I believe there was no other post-mortem appearances than those within the tumour to account for the fatal result. In several of Dr Merryman's cases, where puncture only was employed, the patients died, but more likely from the concurrent injuries, than the effects of the operation. There will be, however, much greater risk from incision than puncture; in the latter, the opening will probably soon close, and the fluid reaccumulate;[2] in the former, the wound is likely to remain patent; and there is the danger of inflammation and suppuration of the cyst,—escape of the contents into the cavity of the peritoneum,—or of the fæces, if the incision be made into the rectum,—of laceration, if the vagina be incised. And if the bulk cannot be sufficiently reduced to permit delivery, but still so much so as to allow elevation of the tumour, is there no hazard from prolapsus of the intestines, and their protrusion into the vagina or rectum? With all these, there is surely more hope from incision, than from *excision* of the ovarium, or the only other alternative, the Cæsarean section.

But the tumour may be found entirely, or to such extent partially solid, as in our case, so that after destruction of the child by the perforator, it will occupy so much space as to endanger the life of the mother in attempting to deliver her by the forceps or crotchet; or, it may be at once evident there is no hope of advantage from destruction of the child.

It is in such circumstances, that Dr Merryman[3] and Dr Blundell vaguely also[4] think it warrantable to *excise* the tumour; I suppose they mean from the vagina, rectum, or perineum. For, if by abdominal incision, apart from its risks, which must be nearly equal to those of the Cæsarean section, it might after all be found impracticable from adhesions and other causes, to dislodge the tumour from between the gravid uterus and the promontory of the sacrum; and though it were, delivery would still remain to be accomplished, and in either case, the operator might be obliged to finish, by the very procedure sought to be avoided.[5]

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[1] Since writing above I observe, that Mr Park incised in one case, and that the patient recovered.—*Merryman, Med.-Chirurg. Transac.*, vol. x. p. 72. See also, Ingleby, op. cit. p. 136.

[2] Ingleby, op. cit. p. 128.

[3] Principles of Midwifery, as quoted by Ingleby, op. cit.

[4] Lectures in Lancet, 1837–8, vol. 2, p. 518. See likewise Velpeau, Traité des Accouchmens, Ed. 1832, Tome 2, p. 206.

[5] Davis, however, advises this plan—Blundell's Lectures in the Lancet, 1837–8, vol. ii, p. 517.

Operations have been frequently performed before, or during labour, for removal of tumours growing from the vagina, uterus, or deep parts of the pelvis and perineum;[1] but I believe the formidable operation of excising a prolapsed ovarium in the manner proposed by Dr Merryman, has never been attempted, so that we have no observations, either in respect to its facility of execution, or its relative degree of safety, in comparison to the only alternative, the Cæsarean section.

We have, to be sure, data, which may be made to bear on this subject, in the results of excision of the ovarium in the unimpregnated female, an operation, which has now been frequently and successfully performed. But we have against us in the ovarian tumour obstructing delivery, the unfavourable position of the organ, and that increased susceptibility to disease for which the parturient state is so remarkable. Nor would the *small incision* here suffice; and a large wound into the peritoneal cavity, through the vagina, rectum, or both, or perineum; a wound allowing for dilatation, still so large, as to permit the ovarium, often of such size as nearly to fill the cavity of the pelvis, to pass out, might be required.

And even after the incision has been made, I do not see how the ovarium attached to the lateral ligament, already stretched to the utmost, can be drawn down from its position in the pelvis, without an unjustifiable degree of force. And not calculating the important parts inevitably injured, the violence required, the difficulty of the operation, and of applying the, in all likelihood, absolutely requisite ligature to the divided lateral ligament, and the effects of the delivery still to be accomplished; protrusion of some of the viscera would almost certainly occur, and destroy the patient. While therefore we are in want of farther knowledge on this subject, than what the above reasoning supplies; elevation—puncture—incision—alone, or with the aid of the usual instrumental assistance, being inadequate for delivery; we think that the chances, forlorn by either practice, are more promising to the mother, while preservation of the child, if the operation be performed at proper time, is next to certain, by the Cæsarean section, than from Dr Merryman's proposal, to excise the ovarium by the outlet of the pelvis.

By any methods of treatment hitherto pursued, in such cases as the one forming the subject of this paper, the danger to mother, or child, or both, appears to be very great. In 18 instances collected by Dr Merryman,[2] comprehending 36 lives, 26 died. Of the nine mothers who lived, only six *perfectly* recovered; and of the whole 18 children, only three or four were born alive. This is a very high rate of mortality, and it is not much diminished by adding Dr Menzies' case and mine, where out of four lives, only one was preserved.

[1] Ingleby, op. cit. p. 144. [Burns' Principles, Ed. 1814, p. 31, and others.]
[2] Op. cit. p. 73.

In those cases where the Cæsarean section is necessitated, it is much to be doubted if the mortality to the mothers will be diminished; though if the operation be not improperly delayed, the child may almost always be saved. Dr Churchill,[1] however, gives the rate of mortality to the mother, by the Cæsarean section, as only one in 27·4, and to the child, as one in 3½, a result more favourable than in the cases by Dr Merryman, treated by puncture, incision, perforation, &c. But Mr Churchill's cases are deduced from foreign as well as British cases, and, even allowing for more favourable terminations dependent on climate, greater tolerance of injuries possessed by the coloured and Asiatic races, performance of the operation at an early stage of labour, and, if you will, greater dexterity of the operators; yet as the results are so very different from those of authenticated cases in this country, I cannot help thinking the recoveries are over-rated.[2] At first sight, the success which has followed ovariotomy, might lead us to expect a somewhat similar result from the Cæsarean section; but an important inherent cause of difference appears to exist between them. And when along with this, we reflect on the fatal issue in laceration of the uterus or vagina,—a fatality greater[3] than from the Cæsarean section,—we are led to the conviction, that the wound in the uterus in the latter operation, has in some manner an important influence in the result; and that as it *alone* is generally fatal, the chances of recovery are infinitely less, when the whole abdominal cavity is at the same time laid open and exposed, as in the Cæsarean section:—and therefore, that modify the operation,[4] or operate under what circumstances we may, there is little hope of much diminishing the rate of mortality hitherto experienced.

The operation was performed on our patient under the most favourable circumstances; she was young, healthy, unexhausted, and uninjured by any previous instrumental interference; and had it not been for the hemorrhage, which, as not being a necessary consequence of the operation, ought not to be adduced against it, the prospect was at first as promising as it ever can be in like circumstances.

For the reason formerly adduced; because no blood was found in the abdomen at the inspection; and from the dark colour of the blood which flowed from the wound when I removed the bandage; I think it was yielded by some large venous trunk or trunks in the cut parietes; which suggests, that in a like case, we should insert needles in place of using the interrupted suture, and fix them in a greater number of points than I inserted the sutures, so as to press the one cut surface firmly upon the other, as is done in operations on the lip.

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[1] Op. cit. p. 318.

[2] Monthly Journal for July 1845, p. 541–2.

[3] Churchill, op. cit. p. 314, 318.

[4] Velpeau, op. cit. tom. ii. p. 463.

Being aware that I have not adduced anything new, I have, before concluding, to apologise for the length of the preceding observations. They will do no more than refresh the impressions of those who have studied the subject; but I am not without hope that they may be useful to others, who, like myself, previously to meeting with the case described, have not had their attention pointedly directed to such specialties as presented.

ARTICLE II.—*On Idiopathic Tetanus.* *By* JAMES WATSON, M.D., *Senior Physician to the Glasgow Royal Infirmary.*

(*Read before the Medico-Chirurgical Society of Glasgow, 9th September* 1845.)

ON the 6th of February 1844, John Kalley, a labourer, aged 30, was admitted into the medical wards under my charge. He had been complaining more or less for ten days, first of lassitude and debility, and then of general stiffness and pain, which gradually increasing, had laid him aside from his work for six days. At present the muscles of the jaw, neck, trunk, and both extremities are felt firm and contracted, the head and loins being drawn permanently backwards, curving the body with a considerable arch forwards. The patient complains of constant general uneasiness; but every two or three minutes his body becomes more bent, the contracted muscles still harder and fuller, and the general pain, previously somewhat moderate, excessive. The fit is of short duration, not exceeding five or six seconds. It is induced by a deep inspiration, an attempt to speak, the being moved or pressed upon. On these occasions, or when for an instant he may fall asleep, his tongue is apt to be injured by his teeth coming together with a snap. He has no peculiar uneasiness in the epigastrium, but complains acutely of a constant severe pain over his whole spine, but especially in the lumbar region. His pulse is 86, full, but not hard. The skin of the upper part of the body is warm, and covered with profuse perspiration; but his feet are cold; the tongue is loaded; he has much thirst, swallows with difficulty, and is much annoyed with mucus in the fauces. Breathing is suspended during the fit, and between the fits is somewhat laborious; but the physical signs of the chest are normal. The bowels are confined. Has neither headach nor giddiness. Mind clear and composed. Though a strong man, he seems much exhausted, and his countenance is highly expressive of anxiety and suffering.

He met with no wound or accident of any kind; but had been much exposed to cold and wet in constructing drains, and imputes his disease to this cause.

The following treatment commenced immediately on his admission (2 o'clock P.M.) He was cupped over the loins to twelve ounces. Had a turpentine enema; was ordered a colocynth pill

containing a drop of croton-oil every four hours, till free catharsis should be produced; a draught with one drachm of laudanum also every four hours, viz. alternately with the pills; a little wine or spirits from time to time, and what nourishment he could be induced to take.

9 P.M. Pain of loins nearly removed since he was cupped—otherwise he is not improved. Bowels only scantily moved; the spasms remain; and since admission he has been tormented with an incessant and painful desire to micturate. The catheter was ordered; the pills continued; the turpentine enema repeated; and veratrine ointment rubbed over the muscles of the lower jaw and spine. Wishing to give a trial to the Indian hemp, (opium in the mean time seeming to be contra-indicated by the state of the bowels,) the draughts were intermitted, and 40 drops of the saturated tincture of the hemp ordered every second hour.

7th. Next morning I found my patient's general health greatly worse, and the spasms and rigidity unabated. His pulse was 112, full and agitated, but not hard; skin still warm, and very moist; several stools, still scanty, their appearance was not particular; urine drawn off in fair quantity, but painful desire to micturate incessant; frequent vomiting during the night; and altogether he is in a state of extreme suffering. Ten minims of hydrocyanic acid were added to each dose of the cannabis; the purgative pills were omitted; and ice ordered to be applied over the spine.

2 o'clock P.M. No vomiting since the morning; felt gratified by the ice; no other change.

As I considered this person in a state of extreme danger, and his case one of considerable professional interest, I requested my colleagues to visit him, and, with their concurrence, I returned to my original plan, viz., giving opiates, purgatives, and applications intended to relieve any inflammatory or congestive state of the medulla spinalis or its coverings which might be present, and endeavouring to sustain the strength. Also, as the gastric irritation had subsided, the consultation recommended that ipecacuan and calomel should be added to the treatment. In consequence, blisters were applied over the spine; two grains of opium with one of ipecacuan were ordered every second hour; ten grains of calomel in the morning, to be repeated if rejected; two drachms of laudanum per anum, unless relieved by bed-time, and a turpentine enema in the morning. The catheter to be introduced as called for, and wine and stimulants as formerly. All other remedies to be desisted from.

8th. Gastric irritability returned, medicines and food being almost immediately rejected. The spasms and rigidity, as also the dysuria, are nearly the same; and the pulse is quick. But the opiate enema has been retained all night, and he has had occasional short sleeps. The turpentine enema, also, given in the morning, has produced a large, pretty natural stool, and he thinks himself a little

easier. He seems much exhausted, however, and feels weak. The calomel and ipecacuan, with the solid opium, were laid aside, and two drachms of laudanum were ordered immediately, in four ounces of strong beef-tea, as an injection, and to be repeated every six hours; a draught, with one drachm of laudanum and eight minims of hydrocyanic acid, every third hour, till easier, or narcotism induced; a purgative enema in the morning, and nourishment and stimulants as required.

9th. Since yesterday's visit he has had no vomiting. Eight draughts have been taken, and he has also retained four anodyne enemata, each two hours on an average: notwithstanding which, large doses of laudanum and hydrocyanic acid he has not shown the slightest approach to narcotism. He has also taken eight ounces of spirits; and nourishment in fair quantity. He has had three stools,—the last particularly dark and fetid. This was the first time any thing remarkable had been observed in the stools. Pulse 104, much calmer. General aspect more comfortable, and he expresses himself as being greatly better. Still, however, the rigidity of body is the same; and although the spasmodic exacerbations are somewhat less frequent, they seem equally severe when they occur. Opiates were continued. Ten grains of calomel were ordered at bed-time, and an ounce of castor-oil in the morning.

From this time there was a gradual though slow amelioration of his symptoms. First, the spasmodic exacerbations became less and less severe; then the upper and lower extremities relaxed in their rigidity; but still, on the sixth day after admission, the muscles of the back and abdomen were as hard as iron, and the permanent curve forward, such as to allow the fist to be placed easily between the loins and the mattress. The general health gradually improved; the pulse coming down, the sleep becoming refreshing, and the appetite and strength returning. The stools continued very unnatural for several days, and with their return to a more healthy state, there was a still more rapid and complete abatement of all the symptoms. The report on the 20th February was—"Bowels well opened, stools more natural; abdominal and dorsal muscles much less rigid, and spasms less frequent. Has this morning, for the first time, passed urine without assistance." Shortly after this date the rigidity ceases to be noticed in the reports, and the spasms are said to be nearly removed. Till his dismissal, however, he frequently complained of the muscles of the neck and jaw being stiff, with unpleasant twitchings.

With the diminished call for them, the opiates were gradually withdrawn. From the 14th February, the hydrocyanic acid was laid aside, and the laudanum reduced to one ounce daily. For ten days longer this dose was continued, after which it was diminished more rapidly. On the 8th of March he had only two grains of solid opium daily; on the 14th, only one; and on the 21st,

opiates were finally laid aside. The bowels were throughout carefully attended to, and they were not particularly difficult to move. A colocynth pill, with a drop of croton-oil, and occasionally an ounce of castor-oil, and on two occasions ten grains of calomel, with the aid of purgative enemata, sufficed. As to stimulants, for a few days about the time of his commencing convalescence, he took fourteen ounces of spirits daily; but his usual quantity was six or eight ounces. On the 6th of March, the spirits were changed for a pint of porter. For the last fortnight he had quinine, steel, and the cold-bath. He was dismissed cured on the 3d April. His residence in the house was fifty-six days, and the whole length of his ailment, (counting from the first deviation from health,) sixty-six days; but he might be said to have been fairly convalescent from the 3d of March, viz. the twenty-fifth day of the disease, and the fifteenth from his admission.

This very interesting case was the first of the kind which had occurred in my experience. I had seen and treated a good many cases of *traumatic*, but never before one of *idiopathic* tetanus. Neither do I think such cases occur very frequently. In our hospital this is only the third since it was opened fifty years ago; and although I may not have examined the medical journals very perfectly to ascertain the experience of the profession on this point, the examination, so far as it has gone, confirms me in the above opinion. The cases narrated are not very numerous, and few of them are well marked. Many, indeed, more nearly resemble hysteria than tetanus. One very interesting and well-marked case lately read to the Medico-Chirurgical Society of Edinburgh by Dr Patrick Newbigging, is reported at p. 331 of the Monthly Journal for April 1845. It occurred about the same time with the one in Glasgow; and was successfully treated on somewhat similar principles.

If ever a case, however, without a wound, exhibited a set of symptoms, precisely resembling those of tetanus, in its most aggravated form, there can be no doubt, I think, that this was one. Indeed, excepting that the epigastric pain, so rarely awanting in the ordinary form of this disease, was in this case altogether absent, and that the patient was harassed throughout the severe part of his malady with a constant and most distressing irritability of the bladder, the resemblance was complete. This latter symptom I do not recollect to have noticed in any case of tetanus I had formerly seen. Here it certainly formed a part of the disease, as it occurred before the patient was put under any treatment, and continued nearly unabated till the rigidity and spasms had greatly yielded. I presume the muscular coat of the bladder participated in the general affection, so that the slightest accumulation of urine excited painful spasmodic action in that viscus, in the same manner as pressing on or moving the more external parts of the body induced an ordinary paroxysm.

There are several points connected with the treatment of this case which I consider worthy of attention.

1*st*, With respect to the lumbar pain. This appeared to me at first to be of considerable importance, and its removal an indication requiring my earliest attention. I did look upon it as holding a very close relation to the spasms, and probably as indicating some inflammatory affection of the spinal nerve or its coverings; and had it not been, that the pulse was not hard, the patient's lower extremities very cold, and his look of exhaustion discouraging, I would probably have ordered general, in place of local bleeding. It therefore appeared strange to me, not only that this pain was so easily removed, but that the progress of the disease should have been so totally uninfluenced by its removal. Twelve ounces of blood, locally abstracted, was certainly too slight a remedy at once to cure so formidable an ailment as inflammation of the spinal nerve or its meninges, if any such had actually existed; and neither this nor the counter-irritants afterwards used, following up the same view, seemed to have any effect in alleviating the convulsive movements with which the poor man was affected. Connecting this fact with the patient's subsequent complete recovery, I certainly came to the ultimate conclusion, that some functional, and not any organic affection of the nervous centres, influencing muscular action, existed in this instance; and that in a future case, I would do well to hesitate how I, by too active treatment, apparently uncalled for, as the issue of the present case seems to indicate, might diminish my patient's chance of bearing up against the very exhausting and lengthened disease which lay before him. Not but that it might be most reasonable to moderate violent local pain, or high constitutional excitement by appropriate measures; but still a very prudent regard ought to be had in their use to the prospective course of the disease, and the small likelihood, held out by the history of cases, or post-mortem inspections, of any real inflammatory state being at the root of this class of affections.

2*dly*, As to the alvine discharges:—these seem from the history to have borne a much closer relation to the spasms than the lumbar pain. They were at first pretty natural,—the stools rather small in quantity, but somewhat too frequent. In fact the purgatives seemed to irritate the bowels rather than empty them. At this period no amelioration of the spasms took place, farther than a little temporary ease from the opium. But when, by the continued use of the purgatives, the bowels began to be more completely evacuated, the character of the stools became quite altered,—they were thin, dark, and exceedingly offensive. From the first evacuation of this kind being procured, there was a very marked alleviation of the man's sufferings,—and from the stools becoming again more natural, the spasms, both permanent and convulsive, speedily gave way. This case, therefore, is one corroborative of the opinion, that whatever else may be judged necessary for the relief of the patient, much re-

liance must be placed in respect of a cure on a decided and *well-sustained* course of purgatives; and this, notwithstanding the at first ordinary character of the evacuations. We all know what a difficult thing it is, in many instances, thoroughly to unload the bowels, and when this is at last effected, what a wonderful amelioration is produced in many convulsive diseases, not very dissimilar in some of their characters to the present. No doubt it must be acknowledged, that this is more likely to occur in idiopathic, than traumatic tetanus, where we have another and obvious source of irritation, —yet even in this latter, by improving the state of the digestive organs, which all writers who have seen much of the disease concur in declaring to be in a very vitiated state, we not only strip the case, to say the least of it, of one source of serious aggravation; but by doing so, we also render the system more amenable to the action of such other remedies as may be regarded appropriate.

3d, As to the use of stimulants in this disease,—it is well known that whilst some physicians advocate depletion, others have gone to the opposite extreme, and have exhibited wine and spirits with no sparing hand. I am quite of opinion that the strength should be supported under the immense exhaustion going forward, but that this ought to be done with as little excitement to the system as possible. I am persuaded that, although there may be no proper inflammatory state present, the nervous susceptibility will be exalted, and rendered more intense by whatever induces a feverish state of the system; and that this must certainly be effected by the immense quantities of stimulant liquors I have seen poured into tetanic patients,—to the great increase, I have no question, of their distress and danger.

In the case before us, when he was at the worst, our patient refused to take beyond a very small quantity of the spirits or wine allowed him. I do not think he ever exceeded six ounces of such liquors daily, till he was fully convalescent, notwithstanding my urgent request that he would take more, so strongly impressed was I with the great risk he ran of sinking exhausted. Had I another similar case to treat, I do not think I would be so urgent in regard of stimulants; but would content myself with endeavouring to support the patient's strength by less exciting and doubtful means, such as animal jellies, &c., which, as the issue of this case proved, were abundantly sufficient for that end, at least with very slight aid from stimulants.

4th, I regard the soothing such patients with opiates as a most important point in the treatment; as not only giving temporary ease to the extreme suffering,—but in doing so, actually prolonging existence, till the action of other remedies, especially purgatives, may have had time to be developed. That the opiates exerted a powerful and most salutary control over the spasms in the present case, was manifest. When taken and retained in full quantity, he was always distinctly relieved; whereas when, from gastric or rectal

irritation, the full quantity was not retained, he was always, both to his own feelings, and to an observer, a great deal worse. This was remarkably the case on one occasion, even after the disease had been somewhat checked, when, from rectal irritation, having lost the benefit of one half of his opiates, the symptoms returned very alarmingly,—and were again speedily calmed by increasing his daily allowance by the mouth to about two ounces of laudanum, which he retained. Even this large quantity, which he took for two days consecutively, did not induce the slightest approach to narcotism. He was always lively and active in his mind, and even less sleep was occasioned than could have been desired, not to say expected.

I preferred the fluid form of giving opium, for the obvious reason of securing its full effect. Opium and ipecacuan were given in a solid form at an early period of the treatment, but it sickened, and was laid aside; after a few hours trial the laudanum was again resumed. Of course the large doses ordered were spread over the twenty-four hours, and in general about one-half was given by the mouth, and the other per anum. Giving the laudanum in part by enema was had recourse to, both on account of the irritability of the stomach, and also with the view of soothing the incessant desire to relieve the bladder already mentioned.

Besides the laudanum, two other narcotics were used in the course of the treatment—hydrocyanic acid and Indian hemp. Of the hydrocyanic acid the dose was pretty large, one drachm daily; but, from its being conjoined with the laudanum, any specific effect it might have had on the disease was necessarily obscured. It was at first given with the view simply of allaying the troublesome irritability of the stomach—which it effected most readily—and afterwards it was continued as seeming to agree with the patient, and being an analogous remedy. As to the Indian hemp, no sufficient trial was made of it. It disagreed with the stomach, and was in consequence soon laid aside. I have no further experience of this drug; but I must say that in a future case I should by no means feel inclined to trust my patient to such a comparatively untried remedy, whilst I had at command one of known efficacy and manageable power, such as opium.

POISONING WITH STRYCHNIA.

Not many days after the above paper was read to the Society, a melancholy occurrence happened in my wards, viz., the death of a young girl, otherwise healthy, from swallowing strychnia. As cases of poisoning with this alkaloid are rare, a statement of her symptoms and *post-mortem* appearances, must be interesting both in a physiological and medico-legal point of view; and as the symptoms from strychnia strongly resemble those of tetanus, I need make no apology for appending a short narrative of her case to the present paper. As the whole case was over in an hour, and from other engagements, I did not know of the accident till some time

after the patient was dead, I will state the occurrences simply as narrated in the hospital journals, without comment.

I must first remark, however, before giving the case, that no culpability could be attached to any person in reference to this unfortunate occurrence. The medicine belonged to a paraplegic patient in the ward, who took $\frac{1}{4}$ grain of strychnia nightly. The prescription ordered one grain to be divided into four pills to secure accuracy in the dose; and the set had unfortunately been renewed that day. The poor girl, as afterwards came out, through a foolish sportiveness, had been in the habit of occasionally secreting and swallowing the pills of her neighbour patients; but this was unknown to the medical officers. The nurse, a most attentive person, (her patients being all supposed to be in a moderate way,) was at tea in her own room when the occurrence took place. The paraplegic patient warned the girl that the pills might possibly do her harm, as they always made her nervous; but in spite of this, she took three of them almost in a breath. This patient was foolish enough not to mention the circumstance till ten minutes after the symptoms of poisoning had commenced. Though this occurrence was one altogether most unlikely either to have happened, or to happen again, yet I have since, when prescribing strychnia, ordered only one pill to be sent up at a time, and it would be well that, in every hospital, "Poison" should be marked on all boxes or phials containing any of these very active medicines, where above a single dose is sent to the ward.

Agnes French, aged 13. *September* 27, 1845. Has been in this house since the 16th instant, for eczema capitis, which is now nearly well.

About half-past five P. M., swallowed three strychnia pills, which belonged to a paralytic patient in the same ward. Each pill contained a quarter grain of strychnia. She has been occasionally in the habit of taking medicines belonging to other patients. Twenty minutes after taking the pills, she said she felt a strange sensation in her head, and became almost immediately convulsed. The clerk was called, and visited her without loss of time. The following was her state. The arms were found extended and rigid, as also were all the muscles of her body, which was bent backwards at a considerable curve. Pupils were natural. Pulse was obscured from the rigidity of the muscles, but impulse of the heart was strong. Face was much flushed and lips livid. Breathing rapid and difficult, but larynx quite free,—spasms of diaphragm very marked. Every few minutes she had a fit of general convulsions. The mind was quite entire, and great fear and anxiety for relief were expressed.

The cause at first being unknown, six ounces of blood were abstracted from the temporal artery. Cold lotions were applied to the head, and sinapisms to the extremities. Ten minutes after the

symptoms began, the owner of the pills told the cause, when a scruple of zinc was immediately given, and large draughts of warm water, which were eagerly swallowed by the patient. No vomiting, however, was induced for about a quarter of an hour, although the fauces were tickled with a feather; and when the emetic operated, it acted very sparingly. All this time the opisthotonos and universal muscular twitchings had continued most violent; but now, during one of the ineffectual attempts to vomit, the rigidity of the muscles suddenly relaxed, and the spasmodic contractions ceased. The heart's impulse, previously strong, could not now be felt, and respiration was for the time extinct. Her face, which, from the commencement of the attack, had continued deeply flushed, became gradually pale, from above downwards; her lips remaining livid. She was laid down; and seemed to recover slightly; her chest heaved slowly, and her heart beat feebly, and at long intervals. The flush also somewhat returned to the face, but with the exception of a few twitches, she had no recurrence of the spasms. The pupils were now dilated—the eyes fixed and turned upwards. The stomach-pump was suggested, and immediately applied, but without any good effect. In a short time the respiration again ceased, and the heart could no longer be felt. The flush, which had been but slight, again descended and disappeared on the neck. Artificial respiration, and galvanism to the phrenic nerve were now tried in vain. The patient was dead. Death took place at three-quarters past six P.M., little more than an hour after the poison had been swallowed, and in about three-quarters of an hour after it had produced its physiological effect.

Autopsy forty-four hours after death.—Face placid, abdomen tympanitic, much lividity of depending parts. Post-mortem rigidity of body in general moderate, but fingers and thumbs very livid, half-flexed, firm, and somewhat elastic. Integuments of scalp bled freely on being cut. Brain and its membranes quite natural, excepting turgescence of velum interpositum and choroid plexus. Spinal cord healthy,—its investing membranes rather vascular. Lungs much congested with venous blood. *Muscles of heart quite stiff. The right ventricle was flattened into a sharp edge, and was quite empty. The left ventricle was also collapsed and empty. The auricles were in a similar condition.* The stomach contained a half-digested meal. Its mucous lining was pale and natural. Other viscera normal.

PART SECOND.

REVIEWS.

Der Speichel in physiologischer, diagnosischer und therapeutischer Beziehung Eine mit Anmerkungen vermehrte Bearbeitung nach SAMUEL WRIGHT, M.D., *etc. Mit einer vorrede des Verfassers für diese deutsche Bearbeitung.* 8vo. s. 213. Wien, 1844.

FEW medical writings, of the present day, in this country, are more justly entitled, in our opinion, to the honours of translation into the continental languages than the important series of papers on *Saliva*, with which the *Lancet* and *Medical Times* have lately been enriched by Dr Wright of Birmingham.[1] We only regret that the German version of these admirable Essays, which we are now called upon to notice, has not been more ably, closely, and correctly executed. The bibliographical references, which must have cost the learned author such incredible labour and research, and which exhibit an acquaintance so intimate and profound with the literature of his profession, have been well-nigh omitted; and even the essential matter of the papers has been so wofully mutilated, or unskilfully rendered, that we have experienced no small difficulty in collating the German translation with the original. In some instances, the sense of the author has not been accurately rendered. One solitary example of the carelessness, or ignorance, of the translator, will quite suffice to prove his unfitness for the successful execution of the task which he has undertaken. In an analysis of the healthy human saliva, cited from the works of the celebrated Berzelius, ptyaline is naturally mentioned as one of its essential constituents; and the German scribe, in translating this analysis, has, most unaccountably, introduced the terms, "speichelstoff *und* ptyalin,"[2] for the English, ptyaline. Now, we have always been taught to consider, and we confidently appeal to the writings of Professor Krause, of Hanover,[3] for the correctness of our opinion, that *speichelstoff* and *ptyalin* are, in the German language, precisely synonymous terms.

Impressed with the high value of Dr Wright's papers, and the benefits which would result to pathological science from their dispersion in an accurate and authentic form, over the rest of Europe, we would suggest to the author the policy of making with his own hand, or, at least, superintending, a translation of them into the French or Latin. It would be alike an act of justice to his own literary and scientific reputation, and of high utility to his brethren of the Continent who do not possess a ready access to the medical literature of England, or are imperfectly acquainted with her difficult and capricious language. And assuredly, no one can be better qualified to accomplish such a labour with honour to himself and advantage to the profession than the accomplished author of the papers "on the Physiology and Pathology of the Saliva." P.

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[1] Vide MONTHLY JOURNAL for July 1844, p. 604.

[2] Literally salivary matter or material, "la partie constituante principale de la salive." *Dictionnaire des Sciences Naturelles, Art. Ptyaline.*

[3] See Handbuch der Menschlichen Anatomie. Erster Band, Seite 504.

Use of Narcotics and other Remedial Agents calculated to produce Sleep in the Treatment of Insanity, for which the Author obtained the Lord Chancellor's Prize in Ireland, awarded by the President and Fellows of King and Queen's College of Physicians. By JOSEPH WILLIAMS, M.D. 12mo. Pp. 120. London: 1845.

WITHIN the compass of a small number of small pages, we have here, well set forth, some most valuable practical considerations. The author shows the high importance of inducing sleep in the insane, as well as in those who have previously had any symptoms of mental disorder. The procuring of sleep may ward off, and may even at once cure, an attack of mania. It therefore behoves the practitioner to know well how to apply the various means which may, in the varying circumstances of different individuals, be resorted to, with the best hope of obtaining the assistance of this important therapeutic agency.

It is not always by the use of *narcotic drugs* that sleep can be induced. In some cases, such medicines may be entirely dispensed with, or used only as subsidiary means. "For example," says the author, "we find a person with fever, heat, restlessness, pain and weight in the head, and vigilantia:—calomel, with scammony or colocynth, are administered, worms are voided, the restlessness and fever cease; sleep follows. Again, we see a patient with high fever, bounding, full, and strong pulse, rolling, injected, and sparkling eyes, great pain in the head, white tongue, dry and hot skin:—blood is abstracted, an aperient is given; and sleep, which has been denied some forty-eight or sixty hours, soon follows." P. 3.

Bleeding is often hastily resorted to. The following passage points out the necessity for discriminating the nature of the case, before we resort to the lancet, an instrument which, beyond all doubt, practitioners are still too prone to use.

"Some of the mildest cases which occur, where there is preternatural excitement with vigilantia, are those of persons having overfatigued the mental powers by continued application, more especially if confined to one subject; and the ill effects seem to be produced more frequently in those whose hopes and fears are in addition adding to the excitement, as is often noticed in junior barristers and students at our universities.

"Now, in such instances, if a young man apply early, the case is usually cured very rapidly, sometimes even within twenty-four hours; if passed over for a few days, recovery is retarded, and if totally neglected, phrenitis or mania by no means unfrequently ensues. In such cases there is great *action*, which is but too frequently mistaken for *power;* the pulse is quick, perhaps 100, 120, or even more, tongue white, face flushed, throbbing and heat of the temples, rolling, sparkling, and injected eye, rapidity of speech, and every thing showing great excitement; now this description is not sufficient to guide us as to the treatment, for all these symptoms may depend on excessive nervous irritation, but more attention must be given to the pulse; if the pulse, in addition to being quick, is also full, hard, and bounding, and if the skin is dry and hot, then the abstraction of blood, both general and local, will usually be necessary, and often within an hour or two after depletion, the skin becomes moist, and the patient falls asleep. But what I am the more anxious to particularize, is the opposite condition, where bleeding is unnecessary and unsafe. Supposing the pulse to be quick, soft, and fluttering, weak or intermittent, the skin moist and clammy, and yet the excitement just as decided as in the other case, to bleed here is most improper, and many cases of insanity have arisen from such practice. The judicious administration of a narcotic will frequently act as a charm, and we have often found the following prescription very useful:

R. Tr. Hyoscyami ℳxxx.
Tr. Humuli ʒij.
Camphoræ gr. v. ad x. aut xv.
Syr. Aurantii ʒij.
Mist. Camphoræ ʒvj.
M. et fiat haustus, h. s. s.

This has often caused calm and refreshing sleep; and the patient, who has previously passed two or three nights with great restlessness and watching, feels himself invigorated, and receives his medical attendant with the greatest gratitude. How different are the consequences if sleep have not occurred,—the patient is more restless, more excited, more irritable, with the pulse quickened and more irregular, and the tongue more furred; that which was excitement is now delirium, and the patient, with his burning head, flushed face, and rolling eye, is no longer master of himself." Pp. 5—7.

The various means for procuring sleep which the author notices are,

1. Bleeding.
2. Purgatives.
3. Emetics.
4. Narcotics.
5. Stimulants.
6. Antiperiodics, such as Arsenic and Quinine.
7. Baths.
8. Exercise.

1. Bleeding, the author, along with the best modern authors, believes to be generally injurious in the treatment of mania; but adds "that it may occasionally, though rarely, be indicated." Dubuisson bleeds when the maniac is young, vigorous, and plethoric; but above all when mania depends on suppression of natural or habitual hemorrhages. Andral bleeds in early cases of plethora, or the catamænia being suppressed. Messrs Beverley and Phillips found very few with vascular excitement requiring blood-letting; and Dr Seymour has seldom seen bleeding attended with good effects, the soothing system being more useful. It should never, in cases of insanity, be resorted to without the most paramount necessity, and even then not largely, as the constitution will not rally after excessive depletion. If it be found after the abstraction of blood, however small the quantity, that stupor or loss of consciousness occurs, bleeding is strongly contra-indicated. In a robust, healthy individual, accustomed to epistaxis, or in a female suffering from congestion at the change of life, especially if resident in the country, bleeding may be advised; but there are very few persons suffering from insanity who can bear general depletion when living in densely crowded cities.

"We must never be deceived by mere vascular excitement; but when it is considered necessary to take away blood, and yet the powers of the patient would not justify general bleeding, cupping or leeches may be resorted to. Cupping takes away the blood more rapidly and acts more promptly, and is therefore followed by more reaction than is observed when leeches are employed. There is evidently a soothing effect produced in some cases, while the blood is gradually oozing from the leeches, and they may often be applied to particular parts of the scalp where it is impossible to place cupping-glasses. Leeching appears to be much neglected in the treatment of mania; in the majority of cases, the local abstraction of blood may be ordered with more safety than general depletion. It is necessary sometimes to leech in delirium tremens, even while administering stimulants, when bleeding by the lancet would very soon prove fatal.

"Broussais recommended, where inflammation existed, to keep up the draining by a continued succession of leeches; this advice is most important, and whether we consider it as either applicable to local or general depletion, or as relating to the application of cold, still the principle is the same,—*prevent reaction.* A decided impression may have to be made on the system at once; but because this is essential, it becomes doubly necessary to prevent reaction, and this is a point very much neglected in practice—we are too apt to wait and see if reaction will occur, whereas our measures should always be so directed as if possible to prevent it.

"A very efficient way of relieving head symptoms, when dependant on visceral congestion, more especially of the liver, is applying leeches to the rectum, and if considered necessary, subsequently placing the patient in a warm bath; a

large quantity of blood may be lost in this way without producing much prostration.

"Many cases of insanity arise from extreme irritability dependant on prostrated power; and to support this power by good nutritious food, and sometimes even with brandy and wine, at the same time soothing the system by procuring refreshing sleep at night by morphia, will speedily evidence the advantages of such treatment. The great error originally, was allowing the powers to sink; it is of the greatest importance that these powers should be supported —the nervous excitation must be calmed. In these cases, mistakes are but too frequently made; *irritation* is confounded with *inflammation*. The maxims so ably taught by Mr Travers are forgotten; the object being to calm the action, not to diminish the power—this nervous power being much more easily depressed than raised. Should this advice be neglected, and bleeding be ordered, stupor, or coma, or confirmed mania may be the consequence. In many cases where there is the most ferocious delirium with great muscular power, yet the pulse is very quick, weak, and fluttering, and even the slightest depletion at once knocks down the powers; but even if the patient should again rally, there is great danger of his becoming idiotic. As Dr Marshall Hall has so truly stated,—under *irritation*, exhaustion is soöner produced than in health; while under *inflammation*, the system bears loss of blood, with less exhaustion than in health.

"As a general rule, the quicker the pulse, the greater the danger. Taking an average of maniacal cases, the pulse will be about 100; often ranging as high as 140, and but seldom descending lower than 90. Disease of the heart is by no means uncommon, as noticed by numerous authorities, and more recently by M. Foville.

"No one was more anxious than the late Dr Abercrombie to point out the impropriety of depleting in many affections of the brain, even where there is wildness, excitement, and incoherency, with great restlessness; the pulse must be the guide, with the antecedent circumstances and condition, and very possibly tonics and stimulants will be the most proper treatment. Where the countenance was exsanguined, and the pulse small and rapid, with exhaustion, then Abercrombie always gave stimulants.

"Dr Gooch, in speaking of a puerperal maniac, who had no sleep, says, her pulse was soft [*soft*] and never very quick, and her face pale; nevertheless, from fear of congestion in the brain, her head was shaved, and ten ounces of blood were extracted from the scalp by cupping-glasses, without diminishing in the slightest her violence and incoherence. The fact is, many of these puerperal cases will not bear loss of blood; they resemble delirium tremens, are often induced by the same immediate cause, *fright*, and occur in both instances where the system is very much exhausted, and usually where the persons have been previously very nervous. The treatment must be anodyne, narcotic, and sometimes stimulant. Narcotics produce more decidedly good effects in puerperal than in any other form of mania. Dr Gooch, speaking of a lady who had lost a large quantity of blood after delivery, found her in a profuse warm sweat, pulse much above 140. He gave her some wine and water with immediate benefit, but says, 'I had better have given her an opiate.' In another puerperal case with vigilantia, the pulse was 140, small and weak, seven days after delivery. Two small doses of laudanum were given, *sleep followed;* in the morning her pulse was 80, and she was cured.

"When Gooch was called to such cases, he gave opium first; if it disagreed, he then gave hyoscyamus and camphor, gr. v. of each, every six hours, and doubled the dose at night, withdrawing it altogether if flushes and pains in the head increased.

"When a patient is in a highly excited state from loss of blood, a full dose of opium is the best medicine we can employ, and it is often successfully prescribed in that highly nervous state so closely resembling mania; and if, when that excessive restlessness occurs, which precedes puerperal mania, a full dose of opium be given, such as 1 gr., 1½ gr., or 2 grs., this formidable disease may be

often prevented, and as a prophylactic, opium may be considered invaluable. In some instances Dover's powder, or morphia, may be preferred; but generally the opium itself is more valuable in these cases of exhaustion.

"Anæmia of the brain, so strongly pointed out by Dr G. Burrows, has been but too little regarded until lately. Many cases where there is great action, require stimulants and support; thus in the case of a young man, æt. 44, mentioned by Abercrombie, there was at first great depression, want of sleep, with incessant talking: reaction took place, excitement increased, pulse 160, continued talking, and obstinate vigilantia; yet stimulants were here required, as after death no traces of inflammation could be found.

"There is an insidious and dangerous affection, occurring principally in females or in debilitated men, especially when previously intemperate, often commencing with depressed spirits, suddenly succeeded by unusual cheerfulness, this very rapidly terminating in maniacal excitement—there is excessive talking and obstinate vigilantia. These persons sink from exhaustion, and cannot bear general bleeding; but local bleedings, purgatives, and antimonials were recommended by Abercrombie, and subsequently he gave stimulants. In many such cases examined by him, nothing could be detected but a vascular condition of the pia matter. Amongst others, he mentions the case of a young lady æt. 23, who was much depressed from grief; this continued two months; she then became highly excited, incessantly talking, pulse 80 to 90—was temporarily calmed by an opiate, and slept for two hours. The excitement returned, continued for several days, the pulse gradually rising in frequency, and reaching 150 and 160. She died, and on examination, nothing but vascularity of the pia mater was found, with minute ecchymoidal spots in the brain. It is probable that such cases would be much benefited by continued doses of digitalis, or of the preparations of morphia.

"It has been previously stated, if bleeding is indicated, it is almost invariably in a very early stage, and if caution be necessary at this period, it becomes doubly so as disease advances; and when inflammation has existed some time, the greatest circumspection is necessary in resorting to depletion. Even Broussais says, 'Quand l'état inflammatoire a déja duré long temps, il faut user des saignées avec beaucoup de circonspection.' But in those cases where a patient convalescing, suffers from a relapse, small local bleedings, as recommended by Sir W. Ellis, are often of the greatest advantage, and will materially shorten the attack; many weeks of suffering being frequently prevented by the judicious application of a few leeches." Pp. 30–38.

2. Purgatives.—When bleeding is contra-indicated, or seems of doubtful propriety, purging is often most properly resorted to, as a means of inducing sleep, by diminishing vascular action. "Dr Clutterbuck mentions the case of a maniacal lady who had not slept for three days or nights; she was purged with elaterium, and fell asleep for twelve hours; next day, maniacal symptoms returned, when elaterium was again given; it caused vomiting and purging, with much benefit. If omitted for one day the symptoms became aggravated." The selection of any particular purgative must of course depend on the circumstances of the case. It may be stated however, that croton oil, in a great many instances, may be preferred; as its operation is speedy and satisfactory; and even though numerous stools may be rapidly obtained, there is little consequent depression of the vital powers.

3. Emetics.—*Occasionally*, an emetic will procure sleep for the insane. As a general rule it may be laid down, that vomiting ought not to be induced in aged patients, or in chronic cases.

4. Narcotics.—We must administer them in *full doses*, when we use them as hypnotics in insanity.

With reference to opium, it is important to remember, that when given on an empty stomach, or in the morning, it causes more excitement than when administered in the opposite circumstances. The author says,—

"It is impossible to limit the extent to which opium may be required; but in stating that a full dose is necessary, from two to five grains may be consi-

dered a large dose for most constitutions; where habit has impaired its effect, one and even two drachms of solid opium have been taken in a very limited period. Pinel knew 120 grains of opium given in one dose to a patient suffering with cancer of the uterus; and I have seen a wine-glassful of laudanum taken at a draught, and this has been repeated three times daily for months—such cases, however, necessarily form the exception.

"Dr Burrows has never ventured beyond five grains, and generally begins with three grains, repeats one grain every two or three hours, never allowing it to exceed twelve grains, when, if sleep have not resulted, he desists. This must be admitted as a far safer practice, than to give fifteen grains or two scruples for a dose, as advocated by some.

"There is much difference of opinion as to its utility in treating insanity. Sir William Ellis says, 'Opium is rarely found admissible in insanity; it more frequently creates heat and general febrile action, than procures sleep.' Valsalva and Morgagni proscribed it altogether. Esquirol considers it as absolutely hurtful, but Andral allows it to be useful where there is restlessness without quickened circulation. Cox tried it to an almost incredible extent without perceiving any, even temporary, much less permanent advantage from it; but when combined with digitalis or antimony, sometimes found it useful. Cullen found large doses of opium to be a sovereign remedy in those maniacal cases where delirium is produced by irritation; he repeated the dose every eight hours as long as circumstances indicated; and he subsequently states, 'In several cases of mania we have employed opium, and in some have found it useful in moderating the violence of the disease; in other cases we have found it absolutely hurtful.' Dr Clutterbuck considers the giving opium or any analogous drugs in order to procure sleep, is in general highly injurious, as tending to aggravate the inflammatory condition of the brain. Dr Armstrong gave opium after bleeding even when the inflammatory action was not checked. Dr Sutherland strongly objects to the use of opiates to procure sleep, and trusts to diet, employment, and exercise, with tepid or cold baths.

"A large dose of opium has been known to cure mania. Thus Andral quotes the case of a maniac who, to commit suicide, took opium, fell soundly asleep, and awoke rational. Dr Hodgkin has related two instances of the value of large doses of opium where there was a strong suicidal tendency; in each case a large dose procured sound sleep and perfect restoration of health. In a case mentioned by Van Swieten, an insane girl, by mistake, swallowed a scruple of opium mixed with vinegar, and was cured. Dr Hallaran saw a maniac sleepless for forty-eight hours; two hundred and forty drops of laudanum were administered in three doses, at three short intervals; sleep approaching to apoplexy continued for twenty-four hours, which was evidently the means of effecting an entire and lasting return of the mental faculty.

"Where insanity is caused by long intoxication, opium is especially indicated; and in the treatment of delirium tremens, combined with calomel, may be considered invaluable.

"Delicate and debilitated constitutions, with spasmodic irritability, generally bear opium well; and this perhaps accounts for its disagreeing less frequently with females than with males. Where the nervous system is the most highly developed, there opium is often the most useful, and is especially indicated in those vigilant and restless cases resulting from nervousness. In puerperal mania, where it has been necessary to deplete or purge, large doses of opium are doubly necessary; and should sleep follow, the attack will generally be alleviated or suspended. Opium is especially indicated where the system is depressed, when it often acts as a charm; and by its stimulating properties is far more useful than Battley's sedative or the preparations of morphia.

"The good effects of a narcotic in large quantity, is shown in the following case detailed by Dr Burrows, where a nervous delicate lady, the subject of a uterine complaint with a suppressed catamenia, and convalescing from bilious fever, was from some accidental circumstance considerably agitated; and although unable to leave her bed for two months previously, suddenly jumped

up with the greatest activity, and exhibited considerable muscular strength, yet haggard in appearance, with a fixed, wild, projecting, and injected eye, hot skin, pulse 114. She was cupped to nine ounces, a branch of the temporal artery being accidentally divided: a little exhausted—put to bed—pulse 104, firmer. Ordered thirty drops of Battley, repeat it, till sleep is procured. Sleep appears to have occurred at intervals. The opiate was continued, and in twenty-four hours she had taken 257 drops, when her delirium and headach had subsided.

"Persons afflicted with suicidal mania, generally bear opium well, and in such cases it is very commonly prescribed in this country. On the Continent it also has some advocates. Esquirol, on suicidal mania says, 'Je puis dire que le quinquina combiné avec l'opium, avec la jusquiame, avec le musc, ont quelquefois réussi en modifiant la sensibilité des malades, en leur procurant du sommeil." In suicidal cases it is often important to keep up the effect of opium, and to take every precaution, as in those who are thus desponding, depression returns as certainly as the effects of the opiate cease; these patients are always thinking, and hence it is that sleep is so essential.

"If prescribing opium to a person not habituated to its influence, the second dose should be smaller than the first, by combining it with calomel or antimony, or James's powders, it does not so much disturb the usual secretions: there are cases where Dover's powder, and occasionally even the Pulv. cretæ comp. c. opio may be necessary. It is well to remember that when opiates are indicated in cases of insanity, the dose must be large. Combining opium with camphor or henbane or digitalis, will often be very judicious. With tartar emetic, calomel and opium in large doses will often calm the system when there is great restlessness and fever, especially if the head be kept cool. Opium should never be omitted where insanity has succeeded constant intoxication; and in those cases where the countenance is exsanguined, with a cold clammy skin, it is especially indicated, and is no less useful in that anæmial state of the brain, where there is great exhaustion, in whatever way produced.

"Where there is constant vomiting, opium may be administered in an effervescing draught. Opium is now rarely ordered from day to day as formerly, having given place to the preparations of morphia, but should it be considered necessary, it will be advisable to combine it with some aloetic preparation. The infusion of opium with a bitter, as recommended by Dr Paris, will secure the narcotic principle without interfering with the intestinal secretions.

"If opium be ordered solely as a hypnotic, it should not be in combination with aromatics, as is the case with black drop; for although this preparation is stronger than laudanum and decidedly more anodyne, yet its narcotic power is considerably diminished, while its stimulating effects are augmented.

"Rousseau's laudanum is stated to be rendered much milder than laudanum or opium by the fermentation it undergoes, and Dubuisson has used it very frequently in cases of insanity, in large doses, and has not observed that it ever produced stupor, comatose sleep, convulsive movements, vertigo, or disconnectedness of ideas so often observed after having employed opiates: still Dubuisson was always careful as to the cases he selected for exhibiting even this milder preparation.

"The liquor opii sedativus is undoubtedly much milder in its effects, and less stimulant than laudanum, and many years since I made it the subject of experiment, in order personally to determine as to its efficacy, and I found it more uniform and certain in its effect, while it did not cause the disagreeable waking symptoms so often noticed when an opiate has been given. Many persons who slept well with it, passed a restless and uncomfortable night when laudanum was substituted for it. Battley's solution has been of the greatest service, and I believe it to be surpassed by no preparation, except the hydrochlorate of morphia.

"When opium has disagreed with a patient, a strong cup of coffee will often remove the unpleasant effects.

"Administering an opiate in the form of enema renders it much milder, and at the same time secures its sedative and narcotic influence, without producing that headach, sickness, and dryness of the fauces, so often complained of when

opium is taken by the mouth. Dr Burrows has found it induce sleep, soothe and relieve delirium, when, if administered by the mouth, mania would have become worse. The French, who use enemata more than ourselves, are very much opposed to introducing opium in this manner; this is somewhat singular, as the effects are generally milder than when taken by the mouth. This is a good plan of administering medicines when patients obstinately refuse to take them.

"If narcotism be highly desirable, and neither of these modes seem practicable, rubbing the abdomen with laudanum and oil will sometimes be found effectual. This practice was adopted by Whytt; when he found a patient could not bear laudanum, he ordered three or four tea-spoonfuls to be rubbed over the stomach and belly; this, if necessary, he repeated every six or eight hours. He also mentions the case of a woman who suffered from vigilantia and took opium internally; and a solution of opium in spirit of wine was often applied to her head and neck, and always gave her ease. Mr Hill found, when these was disturbed sleep, rubbing the head with Lin. camph. fort. ℥ss. of opium to each ounce, was no contemptible auxiliary in procuring rest; and opiate frictions were insensibly used and strongly recommended by Dr Chiaragi of Florence.

"These narcotic frictions over the head will be often found useful: even brushing the hair with a common hair brush for half an hour, will frequently tranquillize a nervous and irritable patient. In some cases it may be necessary to rub the scalp with liniments, or ointments, containing morphia, belladonna, veratria, or aconitine.

"*Morphia.*—Where opium disagrees, morphia will often be useful: it has been found that the narcotine of the opium causes many of those distressing sensations of which patients complain who have been under its influence. The acetate was the first preparation of morphia introduced, and was largely employed with great satisfaction; still, however, it was noticed, especially when a large dose had to be prescribed, that peculiar spasmodic effects ensued; and the hydrochlorate having been subsequently tried, was found immediately to produce its direct calming and sedative effect, without the distressing jumps and twitchings so often noticed when the acetate had been taken: and general experience now fully proves that morphia may be given without producing that headach, dryness of fauces, vomiting, and subsequent distress, not unfrequently caused by opium, so that when this disagrees, morphia may be tried with more than probable success. Another great advantage of morphia is that it may be continued daily for weeks and even months undiminished in effect, without increasing the dose, and without producing any disagreeable or troublesome symptoms, when, if opium had been thus administered, dementia or idiotism would have probably ensued. The hydrochlorate stimulates less than the acetate, and is the most valuable remedy we possess for calming excessive excitement." Pp. 49—60.

Digitalis was employed by Dr Cless of Wurtemberg in delirium tremens, in full doses repeated every two hours. He says, that when narcotism occurred, recovery followed.

Hyoscyamus has in numerous cases special advantages. It is much less apt to produce bad dreams than opium; it has no tendency to induce constipation; it increases the renal and cutaneous excretions. Its calmative and tranquillizing effects even when it fails to cause sleep are most admirable.

"Opium in combination with hyoscyamus is often rendered much milder and more uniform in its action. With camphor, henbane is very useful in producing sleep and tranquillizing the irritability of the insane, and has been recommended by numerous authorities. Some are in the habit of giving five grains of each every four hours; but Dr A. T. Thomson prefers one large dose of ten grains of each, to repeating smaller doses. From v. to x., xv., or even xxx. grains of the extract may be given at once; when necessary to be repeated, from gr. v. to gr. x. may be considered an average dose. If an over-dose be given, it may occasion stupor, vertigo, convulsions, and even coma.

"It will here be necessary to give a caution as to exhibiting henbane as an

enema; several fatal cases have resulted from this indiscretion; and therefore it should never be given in this form." Pp. 72, 73.

Hemlock and *Lactucarium* are briefly noticed.

" *Camphor* acts first as an excitant, the heart's action is increased, blood is thrown to the surface, diaphoresis succeeds, the pulse then falls, and sleep follows; owing to its diffusibility it acts more rapidly than other narcotics. If given in small doses, it acts only as a stimulant, and it is with such intention Dr Sutherland combines it with myrrh in cases of debility. From ten to fifteen or twenty grains must be given to produce its sedative effect; if half a drachm be administered, it acts very powerfully as a narcotic, and is often found very useful in calming delirium. It may be necessary to combine it with opium, hyoscyamus, digitalis, nitre, ipecacuanha, or antimonials, the choice of course depending as particular symptoms may indicate.

"In camphor, as with hyoscyamus, although acting for a short time as an excitant, yet a calmness speedily succeeds, and the pulse falls. These two combined will often lower the pulse in mania considerably, and Dr Hallaran considered if it did no other good, it reduced the febrile diathesis. Whytt found camphor render some maniac and melancholic patients more quiet, where opium would have proved hurtful. Dr Cullen related the case of a young man, maniacal, in which large doses of camphor gave sleep, and rendered the attacks of mania less violent: and he subsequently says, 'in several cases it has induced sleep, and rendered the mind for some time more quiet.' It has been strongly recommended by Kinneir and Avenbrugger, but more particularly by Perfect. Kinneir placed very great confidence in camphor, and found half-drachm doses very effectual, especially when preceded by an emetic. Hallaran considered it an uncertain remedy, but has often seen the pulse of maniacs fall when under its influence. Professor Berndt in large doses regards camphor almost as a specific in puerperal mania.

"Laugther in Austria and Ferrier in England considered it altogether useless, and Dr Haslam gave it in two-drachm doses without perceiving any effect, while Mr Hill found that 'camphor almost universally proved a most safe and efficient remedy;' and he subsequently states, that in every degree of mania when camphor was given in doses of from ten grains to sixty, three times a-day, it has never once been followed by disappointment in producing salutary effects upon augmented brainular(?) and arterial action.

" It will often procure sleep and promote perspiration in fevers, and maniacal and melancholic cases, where opium would have aggravated every symptom. Dr Cox did not find it useful when given alone, but prescribed it with success in combination with antispasmodics, when by its sedative and diaphoretic power, it often diminished hallucinations.

" Camphor is very useful where there is irritation in the reproductive organs, and has been very serviceable in cases of nymphomania, especially when occurring a few days after delivery; it has been strongly recommended in such cases by Dr Berndt, who usually gave four grains every alternate hour, with very great success." Pp. 72—76.

Belladonna, by diminishing the sensibility of the nervous system, may cause sleep in maniacs. Some physicians, however, object to its employment, believing that patients often awake from the slumber which it induces, more troublesome and violent than before.

As illustrating the beneficial effect which may sometimes be obtained from its endermic administration, the following case is quoted.

" A publican, aged 36, an habitual drunkard, subject to attacks of delirium tremens, was visited by Mr Flood of Leeds, who found him with the usual symptoms indicating delirium tremens; pulse 100, weak and irritable, tongue clean, urine scanty, dark, and offensive, blood voided in large quantities by stool; insomnolent for a week.—Head to be shaved; twelve leeches to temples; cold lotions; strong purgatives till bowels relieved. Within eight hours the bowels had been freely emptied; pulse 100, no sleep, great restlessness and agitation. The hydrochlorate of morphia in *two*-grain doses, subsequently in-

creased to *ten* grains, with *one grain and a half* of tartar emetic, also increased to *eight* grains, were administered every two hours, with two table spoonfuls of the following mixture:

℞. Ammoniæ Sesquicarb. ℈ij.
Tr. Opii ℥i. (subsequently increased to ℥i.)
Mist. Camphoræ ℥viij. M. Ft. Mist.

"The next day no improvement; no sleep; cupped to eight ounces; narcotics increased.

"Has been gradually getting worse up to the 7th day of attendance. Hyoscyamus, opium, and morphia, in every form, with digitalis and antimony, cold affusions, and his *usual stimulus*, all have failed—pulse 110, weak and irritable—ungovernable.

"*8th day.* Bowels have been well cleared by castor oil, and a blister has been raised between the scapulæ. The cuticle was stripped off by Mr Flood to the extent of three inches by two inches, and covered by a layer of pure extract of belladonna. It excited acute pain, which subdued his previously boisterous condition; the pain ceased in three minutes; in five minutes, twitchings of arms and facial muscles; appeared intoxicated; the pupils, before contracted, in seven minutes became fully dilated; drowsy. In nine minutes the belladonna was removed, the patient being in a profound sleep, which continued for seven hours, neither disturbed nor stertorous. The pulse was at first 110, small and irritable; in five minutes 140; in twenty minutes 160; it then gradually fell, and in six hours it was 108, full and soft. He awoke quiet, but very soon became excited.

"*10th day.* Has been watchful since last report; opiates have produced no effect; apparently sinking from prolonged excitement. Another blister to be placed rather higher up than the former. Belladonna again applied; sleep followed in twenty-six minutes, which lasted four hours and a half; he awoke perfectly subdued, pulse having fallen to 70; passed a tranquil night, although without sleep; and after this gradually convalesced." Pp. 80–82.

Hydrocyanic acid has no special recommendation as a sleep-inducer; and, being a hazardous drug, ought always to be avoided when an efficient substitute can be got. "The cases of insanity in which prussic acid is most likely to prove useful, are those where there is pain about the precordia, with acid eructations."

Colchicum, combined with digitalis, often acts, we are told, "very kindly as a sedative."

Stramonium, *Aconite*, *Lobelia inflata*, *Nux Vomica*, and *Strychnia*, are most properly dismissed with a brief notice.

5. Stimulants.—When there exists irritability and delirium, along with diminished vital power, stimulants are useful. We have seen the wildest delirium of fever subdued, and sleep induced by a dose of strong negus. In puerperal mania, and in the mania of nervous females generally, stimulants will often conduce more to tranquillity and sleep than bleeding or narcotic drugs.

6. Antiperiodics.—Insanity is sometimes periodical; and it should be remembered, that, when it is intermittent, it is not "inflammatory, and in such cases, arsenic, tr. ferri sesquichloridi, the preparations of zinc, and copper, with tonics, may be often usefully prescribed. Arsenic can be strongly recommended in these cases, and has been given with the greatest advantage; it appears to alter the sensibility and irritability of the brain. Quinine is sometimes given with the same intention: thus, a case of insomnolence was cured by giving gr. vj. of quinine at bed-time. M. Barbier of the Hôtel Dieu, Amiens, ordered it, because every evening there was nervous agitation with pain, occurring *periodically*. Quinine was given two nights, the patient slept well—omitted, no rest—when again administered, six or seven hours of sound sleep followed. Quinine may be useful in many other cases—it acts very powerfully on the nervous system, as is proved by those temporary cases of blindness and deafness not unfrequently caused by large doses, especially when continued for a lengthened period." Pp. 90, 91.

Dr Seymour has given with advantage arsenic, in cases with symptoms closely allied to mania, where there was chronic pain in the head, trembling, sleeplessness, and weak pulse.

7. Baths.—Warm and tepid baths often compose the insane to sleep, when narcotics could not be used. Too high a temperature will excite; and above 96° F. may, as a general rule, be considered as improper. The warm bath will be found very effectual when the circulation is sluggish, and the skin and feet cold; in these circumstances half an hour's immersion will often insure a good night's rest.

The tepid (86° F. to 92° F.) is less soothing than the warm bath; but it is very useful when the object is to reduce the temperature of the body, avoid reaction, and quiet excitement.

Baths medicated with narcotic herbs, are uncertain in their effects, and therefore dangerous.

The *semicupium or pediluvium* are both important, especially when there is a determination of blood to the head.

"The *Douche*," the author most properly remarks, "should never be resorted to, except when imperatively necessary; and the application of the *ice-cap* will generally be found far more efficacious."

Our object is *to keep the head cool*,—and not to make it suddenly cold, and then suppose, that we have done enough. If this be not kept in view, we may have strong re-action,—and mischief, in place of good, through the injudicious mode of employing one of the most efficacious and certain remedies which can be resorted to in certain cases. Cloths kept constantly soaked in cold water will answer at least as well as the ice-cap; and can be always commanded, which the other cannot be. In using this remedy, we must be sure that the patient has a faithful nurse who will never allow the cloths to dry. The all-important aim is *to keep the head cool.*

The cold shower-bath is sometimes serviceable; but in its use, there must be great care and discrimination.

8. Exercise and employment in the open air is often of great importance in giving the patient good sleep at night. Besides its physical advantages, it draws off the mind from cherished delusions.

The work concludes with some general remarks on literary exercise, moral treatment, music, and ventilation. Though these topics are but slightly treated they are practically and soundly handled. We commend this book to our readers. J. R. C.

Inaugural Address, delivered at the opening of the Norfolk and Norwich Hospital Museum, September 10, 1845. *By* John Green Crosse, M.D., F.R.S., *Senior Surgeon to the Hospital.* Pp. 28. Norwich, 1845.

This pamphlet contains much matter of local and also of general interest; and is in every way creditable to the celebrated surgeon who is the author.

The following Notice of Dr Gooch will be read with interest.

"The first mover of the project of erecting this Hospital appears to have been Benjamin Gooch, who, many years before the building was commenced, visited other institutions of the kind, both in the provinces and in London, for observation and selection of the best plan, never ceasing to advocate the adoption of his views until his valued patron, the late Wm. Fellowes, Esq. of Shottesham Park (whom, as Gooch himself observes, Providence, that wisely ordereth all things, had blessed with an ample fortune), became imbued with his zeal, adopted his ideas, and at length drew the attention of the influential inhabitants to the plan of establishing 'a general Hospital for the county of Norfolk and the city of Norwich jointly.' Now Gooch had already experienced the

value of such an establishment on a small scale, for he states that the erecting of an infirmary for the benefit of the poor gave him the opportunity of making some of those observations which he published in his first volume; and in his next, he strongly eulogises provincial hospitals, remarking that, 'to the immortal honour of this kingdom, many such institutions have been founded, and are now well supported by voluntary contributions, which not only afford the best relief to the greatest and most deplorable objects of charity, but have a direct tendency to promote and perfect the knowledge of the medical art, making the benefit extend to all ranks of people.'

"Although Gooch was possessed of a strong body as well as mind, his attention and assiduity in discharging the duties of his profession were, as it not unfrequently happens, greater than was consistent with the maintenance of health; he was attacked by severe indisposition, which brought imminent danger to life, and compelled him to retire from the scene of his laborious engagements; but he embraced the days of his temporary withdrawal, in perfecting his second volume for the press, wherein he observes, by way of preface, 'it having pleased God, in his infinite mercy and goodness, to enable me, I have carefully revised and corrected these papers, and most heartily wish they may answer the end proposed in publishing them, for to promote in any degree the benefit of mankind, and the improvement of a profession I highly regard, will afford me one of the greatest pleasures I am capable of enjoying in the evening of my days.'

"Thus the evening of Gooch's days had arrived, but happily not the close, ere the object of his ardent wish, and on which he had so perseveringly bestowed his powerful advocacy, was accomplished; at length this hospital was built, and in 1771 was so nearly finished, as to be accessible to patients; and Gooch soon afterwards, in his final publication, gave 'a short account of the rise and progress of the Norfolk and Norwich Hospital,' dedicating the volume to the Governors of the Hospital, 'as a testimony of the grateful sense he entertained of the honour which they had conferred upon him, in his absence, and without his desire, in appointing him Consulting Surgeon.' The author then goes on to observe, 'from the principle which originally actuated me, in my inferior station, to promote this establishment to the utmost of my power, it affords me a pleasure superior to every other temporal consideration, to observe how it prospers in your hands; and its thriving is not to be doubted, as the nature of the institution extends, in so singular a manner, to the relief and benefit of the miserable in their several distresses. This very excellent charity will certainly reward the benevolent intentions of its generous supporters, and give the sincerest satisfaction to all who zealously exert themselves in the good work!'

"Surely, my Lord and Gentlemen, this is language, and these are sentiments, worthy of being revived on this occasion, when so many of the present assembly can testify to their accuracy, as unfolded by time. The man who could write such sentiments deserves some renown at your hands, that you may thereby encourage others to emulate so good an example—which is the true value, and constitutes the real use of posthumous renown, a sort of *possession unpossessed*, which its rightful owner can only know *by anticipation*, for he is an heir apparent that never gets into possession of *the ideal estate*, which lapses to the public, to be matured and converted to glorious account.

"The writings of Benjamin Gooch are referred to at the present day, for their intrinsic and practical value, and have been translated into different languages; his name ought to be known to the surgeons of all provincial hospitals, for he entertained the purest views for converting them to the most useful purposes, and for rendering each man's experience available to the public. "Making observations carefully, and communicating them faithfully, with the particular treatment of the most remarkable cases, as well unfavourable as favourable in their events, will be of singular service, and prove the surest guides in practice on various occasions. 'These considerations make me anxious,' says Gooch, 'that every attentive practitioner would show his inclination of being useful, in this manner, to the community in the plainest language, with such concise-

ness and perspicuity as are best adapted to the relation of matters of fact; and the candid will excuse little errors of diction or otherwise.'[1] And what this able surgeon so judiciously advised, he most industriously and carefully performed on his own part, by noticing minutely the history of each case of any interest that came under his observation, as is proved not only by his published works, but by private manuscripts still in existence, thus evincing his extraordinary attention and assiduity in pursuit of the science, as distinguished from the mere business or lucrative part of that profession, to which he was so ardently attached. Having in view, no doubt, his favourite project, the establishing of this hospital, he many years before suggested how such institutions might be made most beneficial, by being converted to the education of pupils, by the surgeons delivering lectures on extraordinary cases, various instruments being collected for inspection, with anatomical preparations, and a suitable selection of books in a room specially provided." Pp. 6–10.

We trust that, ere long, the public, as well as the profession, will be convinced of the truth contained in the following extract. If hospital physicians were obliged, in virtue of their office, to give Clinical instruction, we would not have an Infirmary board selecting from several candidates, the youngest and the least experienced. Hospital Directors would then be constrained to defer somewhat to public opinion.

THE OBJECT OF AN HOSPITAL.

"The first and great object of a general hospital regards the treatment and cure of the afflicted—but in the accomplishment of this object it is ever found desirable, in all such institutions where a considerable number of patients are assembled, to keep in view another object of scarcely less importance—and indeed the two are found naturally blended together, and almost to coalesce into one, when strictly and analytically viewed. Instruction given to pupils, compared with the relief afforded to the afflicted inmates, is like seed sown for a future and abundant harvest—it is a geometrical multiplication of good—a legacy left, with accumulating interest, by the present to succeeding generations. YOU CAN NEVER KEEP UP THE CHARACTER OF ANY LARGE HOSPITAL, WHERE ITS UTILITY AS A THEATRE AND CENTRE OF MEDICAL INSTRUCTION IS UNWISELY COUNTERACTED AND FRUSTRATED BY THE GOVERNORS." P. 23. J. R. C.

PART THIRD.

PERISCOPE.

PRACTICE OF MEDICINE AND PATHOLOGY.

REMARKABLE CASE OF PHLEGMASIA DOLENS, WITH DISSECTION. By M. BARNETCHE, Physician to the Maternity, Bourdeaux.

ISAB. BRUQUET was delivered of her second child on the 2d December 1844. The duration of the labour was twelve hours, the child presenting in the first position. From the fifth month of pregnancy she had suffered from pains, va-

[1] Preface to vol. ii. p. vii.

rious in degree, and which continued till the period of delivery. Fifty hours after delivery she had slight milk fever, and on the fourth day she suffered severely from intense pain of the right leg and thigh; when seen at six o'clock that evening by Dr B., he found the limb swollen, boggy, and warm, and in the whole length of its interior surface, covered with a violet red line about 2 centimetres (9 lines) broad; enlarged glands were observed under the skin, more especially in the leg; the other portions of the limb were of a dull white colour, and as it were infiltrated: there was also fever. (Forty leeches to be applied on each side, and above and below the red line, linseed meal poultice, and decoction of dog's grass). On the 7th pain and inflammation less, redness almost gone, but bogginess continued; lochia natural, slight fever; no pain of abdomen. (Decoction of marsh mallow, warm bath, poultice to whole of limb). The melioration continued to the 9th, when there was a marked increase of swelling, without any additional pain; complete apyrexia. On the 10th the right leg and thigh had considerably increased in size; and towards the middle of the internal portion of the former, a red spot was discovered; constipation, pulse quick. (Twelve leeches round the inflamed spot, poultice, and a dose of castor oil.) During the night a large phlyctena formed over the spot, which burst, and gave vent to a reddish serosity, no appreciable fluctuation. On the 11th the pulse was full and frequent, the skin dry, tongue red at the point, abdomen soft; abundant exudation of bloody serosity from the phlyctena; deep infiltration of limb, which was very large, and pitted every where on pressure. The left limb now also commenced to be painful, swollen, and of a deep red at the middle portion of its internal surface; six stools, lochia purulent. (Marsh-mallow, wine poultice to the right limb; twelve leeches round the red portion of the left.) Towards evening, the left arm became painful, and the patient also complained of some tenderness over the region of the sacrum, the skin covering which was of the colour of the lees of wine. On the 12th, pulse tolerably quiet; complete inability to move the lower extremities; state of arm, tongue, and abdomen the same; no pain on pressure over the pubes. (Wine and water; acidulated decoction of quina; wine poultices to the legs, flannel steeped in camphor to the arm; sacrum to be dusted with the powder of quina and camphor.) On the 14th, there was a marked look of stupidity; the state of the limbs continued the same till the 18th. At that period, the arm ceased to be painful; the poultice was covered with pus; a free issue was given to it by incision; the eschar covering the sacrum had not increased in size, and had become as it were tanned; tongue red, great thirst, pulse febrile. The patient experienced great difficulty in raising the left eye-lid, and in the course of two hours it became altogether impossible to do so. In the course of the evening, the lid of the right eye became affected in a similar way, and it was thought there was some diminution in the power of vision. At his evening visit, Dr B. found the patient was quite insensible to the light of a candle moved as near the globe of the eye as possible. (Lemonade; acidulated decoction of quina; dressing *ad usum;* soup with wine; blister to the nape of the neck.) 18*th*. A tolerable night; appearance better; considerable œdema both of the mucous membrane of the palpebræ and eye protruding between the free edges of the former in the left side; on the globe of the eye it was confined to the transparent cornea, now become dull, around which it projected to the extent of a line; commencing œdema of the free edges of the palpebræ of the right side. The left leg had regained its natural size; abundant suppuration from the right leg. (*Ut supra;* blister dressing; compression of the right leg.) 19*th*. Pulse febrile; mucous membrane of the palpebræ projecting, strangulated here and there, and from two or three points a yellow serosity escaped. 20*th* and 21*st*. Little change in the state of the patient; some appetite however. (Same treatment; soups.) During the night of the 21*st*, the face became flushed and the pulse accelerated. At the morning visit on the 22*d*, there was fever, with great irregularity in the pulsations of the heart; respiration laborious; crepitating rattle at the summit of the right lung, also in the left, and more marked; the symptoms continued to increase. On the 23d, pulse thready; blisters and sinapisms caused no redness of skin; died in the afternoon.

Dissection. *External appearance.*—The body, opened eighteen hours after death, exhaled a strong fetid odour of animal matter in a state of decomposition. The inferior extremities were much swollen and infiltrated. There was gangrenous ulceration over the sacrum; the bone was of a dark grey colour, and filled with pus to the depth of two centimetres. On dissecting the cutis from the right limb, the cellular tissue was found attenuated, of a greyish colour, soaked in liquid, and dissolved as it were in serum. The popliteal and inguinal glands were enlarged and hard, of a whitish-grey colour, and several contained pus; the mesenteric glands were likewise found enlarged, some in a state of suppuration. The left limb was merely œdematous; no pus was found in the cellular tissue, nor were the lymphatic glands enlarged. There was evident hardness and redness of the right axillary glands.

Cranium.—The brain, cerebellum, medulla oblongata, corpora striata, and thalami, were all in a normal state. There was no serum in the ventricles, but a small quantity of a citron-yellow fluid was found between the pia mater and arachnoid, streaked here and there with blood, and small quantities of a fluid pus. The optic nerve, on emerging from the thalami, exhibited no change of colour, but its density was remarkable, creaking under the scissors; there was no infiltration of serum in its sheath. The mucous membrane of the palpebræ and globe of the eye had shrunk; it was of a yellow colour, and the fluid which exuded appeared to be contained in separate cells, but communicating with each other; several layers were removed by means of scissors. The globe of the eye was hard, and with difficulty compressed; a dirty yellow colour was reflected through the transparent cornea, now become dull; on opening it with caution, purulent matter escaped from the anterior chamber, the vitreous humour being replaced by a considerable quantity of greenish pus; neither the colour nor transparency of the lens had undergone any alteration; the same may be said of the fatty cushion on which the globe of the eye rests.

Chest.—Two cavities, of the size of a centimetre (five lines) each, were found in the superior lobe of the right lung; they contained pure pus; at a short distance from these, were two globular bodies, of a cretaceous nature, something like tubercle; there was well-marked engorgement of the posterior part of this lobe; as a whole, it was of a deep red colour, and when cut into slices it sunk in water. The inferior lobe of the left lung was almost completely hepatised. There was a small quantity of serum in the left pleura. The heart and pericardium were natural.

Abdomen.—The peritoneal coat of the intestines was slightly thickened, especially towards the lower end of the ileum, and over the cœcum, which was much injected. Several red spots were scattered here and there, and in the points corresponding to these, the mucous membrane was soft and easily detached, leaving the walls of the intestine very thin and transparent. The stomach, kidneys, and bladder were natural. Spleen somewhat enlarged, and of a deep red colour; over its surface were scattered patches of a greyish tint; it was soft, and easily broke down under the fingers. Liver large and very dense. On the superior surface of the right lobe, a deep brown patch was discovered, under which there lay a clot of blood, whose diameter in all directions was about half an inch. No other alteration was perceived in the organ.

Uterus.—The uterus was of the normal size, but soft to the touch. The ovarian tubes were red; the ovaries themselves tumefied, and softened, and covered with a layer of pus, but without any notable alteration in their substance. On examining the interior of the uterus, its surface was found coated with a species of pap, consisting of decomposed blood and pus. This was also found in several of the veins or sinuses. The tissue of the uterus had lost all its consistency, and by moderate pressure, gave forth a sanious serosity.

Articulations.—The pubic and sacro-iliac articulations were healthy.

Circulatory apparatus.—Heart and arteries normal.

Veins.—A large clot of blood, found in the right auricle, extended upwards into the vena cava superior, and downwards into the vena cava inferior. Its total length was about 16 centimetres (5 inches), a second clot was found in the inferior cava, which extended into the primitive iliac veins, and produced obli-

teration in the latter, to the extent of about a foot (30 centimetres.) Another clot was found in the right popliteal vein, containing a thick layer of pus in its superior portion; these clots obstructed the calibre of the veins, and, in some points, adhered to them. The internal membrane was, as it were, detached, and adhered to the cloth employed to wipe the surface. The veins of the left limb appeared healthy, as did also those going to the globe of the eye.

REMARKS.—Notwithstanding the many works on *phlegmasia alba dolens*, it is a disease with which we are still little acquainted. For ages it has attacked females shortly after delivery, but in degrees so various, and with characters so little marked, that in turn it has been regarded as phlegmon, erysipelas, abscess, rheumatism, or metastasis of the milk, &c. By some it has been regarded as rare; thus Hull only witnessed it four times in eight thousand women; whilst M. Velpeau, on the other hand, has met with it five times in eighty deliveries. We ourselves have observed it in a still greater proportion; but in some of our cases its presence might have been denied, and it might only have been regarded as a rheumatic affection, or a phlegmonous erysipelas. Be this as it may, we now turn to the morbid appearances discovered, on dissection, in the above case. There are some constitutions which we may term *puogenic*. What are the appearances which reveal the presence of this unhappy organisation? Of these we are ignorant, and cannot therefore argue as to their being the cause of the disease with which Bruquet was attacked. We may remark, however, that during a great part of her pregnancy she suffered severely from irritation, which, from her description, we attribute to a state of sub-acute inflammation of the uterus. Labour only lasted twelve hours, and was unaccompanied with those violent contractions, which are regarded as a cause of contusion of the uterus and the soft parts of the pelvis; it could not be accomplished however, without some pressure on the pelvic vessels and nerves. We may further remark, that the child presented by the first cranial position, and that it was in the right limb, or opposite side, that the disease commenced. This fact is in opposition to the opinion published by M. Velpeau to explain the predilection of phlegmasia dolens for the left limb, viz. the greater frequency of the left occipito-frontal position. The patient was guilty of no kind of imprudence; but, even supposing that this were not the case, I should still be inclined to regard some unknown predisposition as the most powerful cause of the disease. The symphysis pubis was intact, and exhibited not the slightest alteration in its tissue; the same may be said of the sacro-iliac articulations; we cannot, therefore, attribute the development of the disease to inflammation of these parts. No more can we consider the ulceration of the soft parts over the sacrum, nor the alteration of the periosteum of that bone, as one of its primary causes, as these did not appear till after the disease had made serious progress. Moreover, no pain was felt, either in the symphysis or sacrum, except at the period when the skin was approaching a state of sphacelus. There was no mistaking, during life, the presence of inflammation, both in the glands of the limb and mesentery, and on dissection, we had the most convincing proofs of it. We may therefore infer, that the lymphatic system played an important part in the disease; but the question still remains, was it the first to become inflamed? We cannot deny that pus was found in the large veins; clots of blood apparently obstructed the venæ cavæ, and the iliac veins and their branches of the left side; pus was also found in the uterine sinuses, upon the ovaries and in the lungs; in the latter, indeed, two abscesses were discovered; and at a little distance from these in the same lobe, M. Faure discovered a species of concretion, which he regarded as incipient tuberculisation, but which I am rather inclined to associate with those facts related by Dance in the *Archives Générales de Médecine;* in a few days more, this cretaceous matter would probably have become softened, and thus passed into the third stage, in the formation of abscesses in the lungs in cases of uterine phlebitis. Was this pus a consequence of lymphitis? Those who regard the glands as offering a barrier to the passage of pus will reject this idea. Was the presence of pus in the veins an irrefragable proof of phlebitis, and are we to regard inflammation of the veins of the uterus as the only source of the disease which carried off the patient? Another remarkable

fact was the loss of vision, which came on so gradually, that we had to take means to satisfy ourselves of its actual extinction. Had we not reason to believe in the existence of some serious affection of that portion of the brain which presides over that function? From its dissection, however, and notwithstanding the coriaceous texture of the optic nerve, may we not affirm that the primary cause was the conversion of the humours of the eye into pus? In fine, our conclusions from the above case are the following: 1*st*, That all the morbid symptoms observed in the latter months of pregnancy may be referred as well to irritation of the lymphatics as to that of the veins; 2*d*, That the seat and progress of the inflammation prove that the lymphatic glands were the first attacked; 3*d*, That the pus formed at first in them was thence carried into the venous circulation, and the remarkable appearances presented by the veins may be regarded as secondary; 4*th*, That *phlegmasia dolens* is sometimes a phlebitis, and that even when the symphyses may be regarded as the starting points, the general purulent infection always proceeds from the two combined; 5*th*, Lastly, that the part which the lymphatics play in the production of those phenomena, which, when grouped together, bear the name of *phlegmasia dolens*, is by no means of so secondary a character as has been affirmed in these latter times."—*Journ. de Méd. de Bourdeaux*, as quoted in *Annales de Thérapeutique*, 7th October 1845.

Case of Hematuria—Cancer of the Kidney—Dissection. By M. Matice, Interne des Hôpitaux.

William Seiller, aged 75, was admitted into hospital on 9th November 1843. Originally of a good constitution, he had always enjoyed good health, with the exception of pain of the loins of very long standing, and of pain of the right side, near the nipple, which had only appeared within a few days. He had slight cough; but after attentive examination of the chest nothing remarkable in the respiratory organs was discovered. Pulse full, 85; little thirst; slight heat of skin. (Pectoral tisane, &c.) 10*th*. Same feverish state, with nothing particular to account for it. The diagnosis was rendered more difficult from the deafness of the patient, which prevented him from furnishing any particulars regarding his state. (Same prescription.) 12*th*. Patient still coughing, and spitting blood in rather large quantities; it is of dark colour, and mixed with very compact sputa. Pain continues; it is still local, circumscribed, and increased by pressure. Respiratory murmur weak on right side, and large crepitating rattles heard at a distance. Resonance of side somewhat diminished. Left side natural. Pulse full and frequent. (Tart. antim.) 13*th*. Pulse irregular, less strong, more frequent, 110. (Same pres.) 15*th*. Quantity of blood expectorated in the twenty-four hours amounts to nearly 60 grammes. It is dark and coagulated, and its expectoration difficult. Appearance good; no appetite; no dyspnœa. Same respiratory phenomena. (A central pulmonary apoplexy was suspected.) Pulse small, 100. From the 15*th* to the 22*d*, nothing remarkable, except that the quantity of blood had diminished. Respiratory murmur still feeble; bloody urine for the first time; pain of loins and abdomen. Pulse small, 90. (Infusion of linseed.) 23*d*. No spitting of blood. Pulse small, 88. Urine scanty, 500 grammes (one pound) in the twenty-four hours, bloody, no odour of ammonia. 24*th*. Same state of respiratory symptoms. Urine very bloody and thick; deposits a yellow matter similar in its aspect to pus. 25*th*. Same state of urine. Spitting of blood has returned; respiration not accelerated. Pulse tolerably full, 108. 26*th*. Face pale, as well as the rest of the body; features sharp; feeling of general uneasiness. The nurses report that the patient has passed pure blood, both by the penis and anus, and in such quantity as to soil the mattress. Urine scanty, of the colour of meat washings, dysuria; it still appears to contain pus. Dulness on percussion over the left renal region, which extends forwards to the region of the epigastrium. Tumour sensible to the touch; no pain experienced during the exploration. Pulse frequent, very small, 120. 29*th*. Hippocratic face, extreme paleness; urine scanty, bloody, and apparently mixed with pus; has no smell. Respi-

ration somewhat accelerated; a few rusty sputa. Pulse small, irregular, 120. Died on the 30th.

Dissection, *twenty-four hours after death.*—The body exhibited a moderate degree of fatness; the fatty appendages of the intestines were surcharged with fat. The whole of the digestive tube was healthy, and contained no blood. The stomach had contracted adhesions with the tumour, which we are now about to describe. The bladder and right kidney were healthy. The left, large and shapeless, weighed nearly two pounds. Its capsule was very much thickened, and made up of a dense cellular tissue, which adhered strongly to the proper membrane of the kidney. Its surface was covered here and there with small round tumours, which exhibited, when cut, all the appearance of an apple, both as regards colour and consistency. Several of these had their seat in the fatty tissue; others in the surrounding cellular tissue, which they appeared to have invaded. The shape of the kidney was chiefly altered near its fissure, and this was produced by the presence of several round projecting bodies, remarkable both for their black colour and their softness; in a word, these were apoplectic cysts. On dividing the kidney from its convex edge, a cavity was found in its centre of the size of a hen's egg, surrounded with a soft substance of the colour of port wine, and which appeared to have been torn like hepatised pulmonary tissue; no effusion of blood was found in it. The rest of the surface was of a pale red. The whole renal tissue was replaced by a substance hard in some points, and soft and black in others. The ureter was distended with semi-coagulated blood, of a dark bistre colour. The renal artery and vein exhibited no alteration. The spleen, soft, and double its usual size, adhered to the diseased kidney. The liver was very large, and over its surface were found round white spots of the size of a shilling. Others of these, surrounded with a white zone, exhibited a brown colour in the centre. These surfaces were nothing more than the free portion of the periphery of the tumours, some of which not larger than peas, were in profile of a circular form, white, homogeneous, and, in a word, identical, at the surface, with the tumours indicated above; whilst others, generally larger, exhibited at the centre a brownish colour, and a soft and disintegrated surface. There was sometimes even a distinct clot in the centre. The author conjectures, that probably cancer of the kidney might have been diagnosed by the microscopic examination of the cerebriform matter mixed with the urine, and which was erroneously mistaken for pus.—*Annales de Thérapeutique*, 7th October 1845.

Turpentine in Large Doses in the Treatment of Purpura Hæmorrhagica. By J. Moore Neligan, M.D., M.R.I.A., Physician to Jervis-street Hospital, Lecturer on Materia Medica and Therapeutics in the Dublin School of Medicine, &c.

It is now very generally admitted that there is not the least similarity, either in their nature or origin, between purpura hæmorrhagica and the scurvy of seamen. Nevertheless, this idea, the correctness of which was so strongly insisted on by Willan, still influences much the opinions of many practitioners, with reference to the treatment of this disease; and the statement put forward by our great English authority on skin diseases, "that the treatment of this disease is simple, and may be comprised in a very few words: a generous diet, the use of wine, Peruvian bark, and acids," is, even in the present day, too indiscriminately adopted. On the other hand, we find it laid down by numerous writers on the disease, who adopt the opinion of Dr Parry, *that it is always of inflammatory origin*, that early and free venesection alone holds out any hope of successful treatment. My intention in the present communication is, without attempting to reconcile or account for those conflicting opinions, to narrate some cases of purpura which were speedily and effectually cured by the administration of turpentine in *large doses*, and at the same time to state the reasons which first led me to employ it.

In the ninth volume of the *Edinburgh Medical and Surgical Journal*, Dr Harty of this city, in a communication to Dr Bateman of London, details some

cases of purpura simplex, and of purpura hæmorrhagica, in which the free employment of purgatives was attended with marked and rapid success. The purgatives employed by him were calomel and jalap; and he states that he was induced to adopt this mode of treatment of purpura from incidental remarks of the good effects of purgatives in this disease to be met with in the writings of Heberden, Hoffman, and others. In the spring of 1840, while acting for a few months as one of the physicians of the city of Cork Dispensary, I met with eight cases of purpura hæmorrhagica of the worst form. The district which I had the charge of (Blarney-lane and its neighbourhood) being one of the poorest in the city, the individuals who were attacked with the disease were nearly all of broken-down constitutions, owing to overwork and insufficient nutriment. Having, in consequence of the asthenic character of the disease, treated the first two cases which came under my care, on the tonic plan, without success; in the next case I met with I had recourse to the employment of free purgation, but this case, which, however, was not seen until the disease was very far advanced, also terminated fatally. The fourth case, in which the individual was younger and of a more robust habit of body, terminated favourably under the free use of purgatives, employed as directed by Dr Harty.

From the result of those four cases I was, of course, led to place but little reliance on the use of bark and acids in the treatment of this disease, and to look more favourably upon the employment of purgatives. I thought, however, that still more favourable results might be expected from the administration of oil of turpentine, which, while it acts as a powerful cathartic, also possesses the property of checking hæmorrhage, depending on an atonic state of the smaller blood-vessels, owing, probably, to its powers as a diffusible stimulant. In consequence of those views, I employed this remedy in the four cases that afterwards came under my care while in charge of the district, and they all recovered. I prescribed the oil both in the form of draught and of enema; the usual dose for adults being from one ounce to an ounce and a-half, and for children from two drachms to half an ounce, generally in combination with castor oil, to render its cathartic action more certain.

Since that time I have employed oil of turpentine in every case of purpura which has been under my care, and its use has been invariably attended with beneficial results. The mode of its administration, and the effects which it produces, will be better understood from a perusal of the following cases, the two first of which I have selected as being evidences of the effects of the remedy, both in the child and in the adult, and also as having been witnessed by the clinical class in the hospital; and the third, in consequence of its having been attended, in consultation, with an intelligent practitioner of this city, who was at first adverse to the use of the oil of turpentine in such large doses.

Case 1. Reported by Dr J. O. Curran.—*Sore Throat, Anorexia, and general Depression in a Patient exposed to Contagion of Scarlatina; Occurrence of Purpura Hæmorrhagica four days after; Turpentine per Os et Anum in large doses; rapid and uniform recovery.*—Anne Welby, a remarkably fine-looking child, six years of age, was admitted into Jervis-street Hospital on the 11th of April 1843. She is robust, but very pale, and her countenance has a most languid and anxious expression; the lips and nostrils are covered with blood of a dark colour, which has coagulated over them, and blood is oozing slowly from the margins of the gums; an eruption of small circular spots, about two lines in diameter, and varying in colour from a blackish purple to the hue of arterial blood, is thinly and pretty uniformly diffused over the whole body; the spots are nearly all of the same size, and perfectly circular, but a few closely resemble vibices both in colour and outline; the colour of the eruption is not in the least affected by pressure, nor by the part of the body in which it occurs; a few spots are sensibly prominent, and there are also some which are mere bloody vesicles, and which rupture under slight pressure with the nail; one or two spots are situated on the red margin of the lips, as well as on the mucous membrane of the mouth; the tongue is moist and slightly furred, and the papillæ,

which are red and prominent, give it a mottled appearance; the fauces are very red, and the right tonsil considerably enlarged, puckered, and of a deep brownish-red colour; the pulse 120, small and hard; the respiration quiet, and there is no cough or expectoration.

The history of the case is shortly as follows:—patient slept in the bed with her brother and sister, who had just been attacked with scarlatina. On Thursday (the 6th) she was observed to change colour several times, she abandoned play, and could not be induced to eat anything. The following day she complained of her throat being very sore, and her mother observed that it was swollen; sickness was also complained of. The next day there was no alteration. On Sunday morning the eruption was first perceived; her gums were then bleeding, and in the course of the day she passed blood by urine, by stool, and also by vomiting; she had also several attacks of epistaxis, which, however, were very slight, and subsided spontaneously; on the next evening she was admitted into hospital.

April 12*th*. Was very restless during the night, and could not be induced either to eat or drink anything; slept little; this morning her countenance has the same appearance of languor, there is more depression, but the pulse, &c. continue as before; the patient will not answer questions, nor even open her mouth or put out her tongue when desired to do so.

Many new spots have made their appearance; they are of a florid-red colour, whilst the hue of those previously noticed has become darker; no new vibices have been observed, and there has been no epistaxis since her admission; blood still oozes from the gums, and occasionally from the nares, which the patient is continually irritating with her fingers; the urine is said to have been of a porter colour, but it was not preserved; the bowels have not acted since her admission.—R. *Olei terebinthinæ, olei ricini, utriusque,* ℥iii, *Aquæ menthæ piperitæ* ℥ss. *Misce. Fiat haustus statim sumendus, et vespere, ni alvus prius responderit, repetatur.*

April 13*th*. The above draught was given twice, but it speedily excited vomiting; the whole of the medicine, however, did not appear to have been ejected from the stomach; it had no action whatever on the bowels, and consequently five grains of calomel, with an equal quantity of scammony, were administered at bed-time, by the directions of the house-surgeon.

The eruption is unchanged; the skin is hot; the pulse hard, and ranging about 130; the tongue has lost the mottled appearance which it presented on the day of admission, but it is still slightly furred; the fauces are red, but the swelling of the right tonsil is diminished.

The bowels have not been moved; there is no pain complained of, the respiration is but very slightly accelerated, and there is no cough whatever. R. *Olei terebinthinæ, olei ricini, āā* ℥ss, *decocti hordei,* ℥x, *Fiat enema, statim adhibeatur.*

April 14*th*. The injection operated freely, bringing away a considerable quantity of feculent matter, intimately mixed up with grumous blood.

The improvement in the appearance of the patient is of the most marked and decided character. The countenance has partially regained its colour and animation, and the patient is sitting up in bed, amusing herself, and readily answering questions. The pulse is less frequent and not so hard; the tongue quite clean and moist; the skin cool. No new spots have made their appearance, and those which were previously present have become much darker-coloured.—R. *Olei terebinthinæ, olei ricini, āā* ℥ii, *decocti hordei,* ℥x, *Fiat enema, hodie injiciendum.*

April 15*th*. Continues to improve. The enema to be repeated.

April 16*th*. Dejections still consist almost wholly of grumous blood, but mixed with a much larger and very evident proportion of feculent matter. Pulse 120; respirations 24; skin of natural temperature; eruption much faded; expression of countenance cheerful and healthy. The enema to be repeated.

April 17*th*. Had two perfectly natural dejections after the enema; feels and looks quite well: spots very much faded.

April 20th. Countenance quite healthy and lively; eruption scarcely perceptible. The bowels being confined, she was ordered a mild purgative of calomel and scammony.

April 24th. Discharged cured.

This child was admitted into hospital again on the 2d of January 1845, nearly two years afterwards, labouring under a second attack of purpura, not nearly so severe, however, as in the first instance. The oil of turpentine was administered to her in the form of draught, uncombined with castor oil, the quantity prescribed being two drachms night and morning, for five successive days; it was given floating on the surface of peppermint water, in which form it was retained by the stomach, and produced from three to four stools daily. She was quite well on the 7th instant, the sixth day after the appearance of the spots, but she was kept in the hospital until the 12th of January, for fear of a relapse.

Case 2. *Purpura Hæmorrhagica, occurring in an adult, cured by large doses of Oil of Turpentine.* Reported by Mr Farmer.—William Flannagan, aged 50, a labourer, admitted into Jervis-street Hospital, July 1, 1845. The entire of the body and limbs is covered with small circular spots of various size and colour; from half a line to a line in diameter, and varying in colour from the florid red of arterial blood to a purplish-black hue. There are also several large, ecchymosed patches of a deep greenish-purple colour; those are situated chiefly on the right mamma, the elbows, the loins, and the backs of both legs. Firm pressure produces no effect on either the small or large spots. He complains very much of weakness, with pain in his back, which, together with a feeling of great lassitude, has, from the commencement of his illness, altogether prevented him from working. He is constantly coughing up a frothy serum, deeply tinged with blood; the gums also bled slightly, and he states that, previous to his admission into hospital, he passed bloody stools. The pulse beats about 60 in the minute, but is feeble and very compressible. The body is emaciated, and the countenance very expressive of anxiety.

In early life the patient was addicted to intemperance, nevertheless he enjoyed perfect health until the first attack of the present disease, which was about six months ago. Since that time he has been repeatedly attacked with the disease, but at no time so severely as at the present. He was in an hospital during the first seizure, where he was cured of it, but it reappeared in three months afterwards; he was again admitted into the same hospital, but having been discharged before the spots completely disappeared, they in a few days began to increase in size and in number, and he has never been free from them since. The great size of the vibices, together with the bloody dejections and sputa, and the complete prostration both of mind and body, compelled him at length to seek admission into this hospital.

July 2d. Many new spots have made their appearance since yesterday, and the bowels have not been moved since his admission.—R. *Olei terebinthinæ ℥iss, syrupi ℥ii, aquæ menthæ piperitæ ℥ii. Misce. Fiat haustus statim sumendus.*

July 3d. Was somewhat intoxicated yesterday after taking the draught, which vomited and purged him freely, the stools being slightly mixed with grumous blood. He feels much better to-day, and eats with an appetite, which he has not done for some time. The spots are darker coloured than on admission, and some new ones have made their appearance, but the sputa are not so bloody.

July 4th. The large blotches are fading, and turning of a yellowish green colour, while the small spots are disappearing; sputa still tinged with blood; bowels not moved yesterday.—R. *Olei terebinthinæ ℥iss, olei lini ℥i, decocti hordei ℥xvi. Fiat enema, et statim adhibeatur.*

July 5th. The patient is improved in every respect, with the exception of the sputa, which are more bloody; the bowels were affected only once by the enema; there is no appearance of blood in what he passed.—R. *Olei terebinthinæ ℥i; syrupi ℥ss; aquæ menthæ piperitæ ℥ii; Misce: Fiat haustus, statim sumendus.*

July 7th. Still improving; both large and small spots are gradually disappearing; bowels rather confined. The draught to be repeated, and to have full diet.

July 9th. Feels quite well to-day; none of the small spots to be seen, and the larger blotches much diminished in size; has had no expectoration for the last two days; as the bowels were confined, he was ordered the common castor oil draught.

July 12th. Flanagan was discharged to-day quite cured, having been kept in hospital until all the stains disappeared from the skin.

The third case was that of a delicate child, five years of age, whom I attended in consultation with my friend Mr Dobbyn, of D'Olier Street, in May 1843. After two days' slight fever, the entire body became, in one night, thickly covered with spots of purpura, while two large vibices were apparent on the nares, evidently produced by the pressure of the body on that part; the bowels were free, but the stools consisted of feculent matter, intimately mixed with blood. The oil of turpentine was administered to her in the form of draught, in doses of two drachms and a half twice daily. She was only five days confined to bed, and on the sixth day scarcely a trace of the disease could be perceived on any part of the body.

This case I look on as being particularly interesting, when considered in connexion with that of Welby, the first case I have related in this communication, inasmuch as this was an exceeding delicate child, of a rather strumous habit of body, while the girl Welby was a fine, healthy-looking child, with, after her recovery, a very florid complexion. It thus appears, that this mode of treating the disease is equally applicable when it occurs in the robust as in the debilitated—a fact which is fully borne out by the experience I have had of it for the last five years.

Therapeutic Properties of Hemlock. By Dr Neligan.

Since the publication of my communication on the Therapeutical Properties of Hemlock, in the Journals, twelve months since, I have used it most extensively in the treatment of chronic rheumatism, and my subsequent experience of its effects would lead me to speak, if any thing, in more favourable terms of the beneficial results which it produces. Many practitioners, who have employed it in consequence of my recommendation, have complained to me that, although it has generally alleviated pain, it has not produced the same benefit which it has in my hands; but, on inquiring from them, I have been enabled readily to account for this difference in its effects, inasmuch as they have not given it in sufficiently large doses, having, in every instance, substituted the same number of drops for the minims in which I prescribed it, and having been afraid to push its employment until the constitutional effects, namely, "a disagreeable sensation of dryness of the throat, with a feeling of constriction and a difficulty of swallowing, amounting to actual pain," which I have described, have been produced by it. I have, consequently, of late been in the habit of prescribing the *succas conii* in the form of mixture, ordering half an ounce of it to be mixed with seven ounces and a half of camphor mixture. Of this mixture the patient takes at first half an ounce, that is fifteen minims of the hemlock juice, every fourth hour. We are thus enabled to increase the dose very gradually, until the constitutional effects are produced; and moreover, we avoid the uncertainty which always arises from allowing patients or nurses to measure medicine by drops.

I am induced to add the following report of a case which has recently occurred in my hospital practice, with the intention of shewing how much relief may be produced by the use of this preparation of hemlock, even in the most inveterate forms of rheumatic arthritis.

Arthritic Rheumatism, of twelve years' standing. Reported by Mr Farmer.—Rose Montague, aged 28 years, unmarried, by occupation a servant, was admitted into Jervis-street Hospital, June 19, 1845. She states that she enjoyed excellent health until her sixteenth year, when, having been much exposed to cold and wet while in the discharge of her duty as a servant, she was attacked with severe pains in her joints while in bed at night, and a sensation of numb-

ness, at first affecting only her left arm. The pains gradually affected joint after joint, and produced such excruciating agony that her screams could be heard at a great distance. The joints which were the seats of pain then began to swell and feel gritty when moved; she also partly lost the power of moving them. The swelling has continued in them ever since, and they have also gradually become more contracted. She did not undergo any treatment for the disease until about four years since, when she was admitted into the Monaghan Infirmary. She was kept there for about three months; during this time, she states, that the treatment principally consisted of the repeated use of warm baths, from which she did not derive the least benefit.

On admission the affected joints presented the following appearance. The hip-joints, which were the first affected, were almost immoveable; the process of abduction being nearly impossible, owing to the bony deposits on the outside of the joints. The knee, shoulder, and elbow-joints, were very much swollen, and their power of motion considerably diminished; so much so, that she was unable to extend her legs, which were semiflexed, nor could she raise either of her hands to her head. The least motion of the affected joints caused a gritty sensation to the hand placed over them, and in the knee-joints could be distinctly heard. The wrists and the articulations of the fingers presented the greatest alteration of structure, being nearly all of them displaced from their natural positions, in consequence of which they have a very distorted appearance. At the junction of the ungual with the first phalanx of the thumb of the right hand, the ends of the bones are partly absorbed, and she is obliged to tie a bandage round the joints to keep the thumb in its place. Besides the enlargement of the epiphyses of the bones, there is a gelatinous effusion surrounding most of the joints.

The patient's general health at present is very good, but she suffers much occasionally from pain, and from occasional attacks of inflammation of the joints. She is totally unable to walk, and is obliged to be lifted in and out of bed.

To omit the daily reports of this case, suffice it to say, that she was kept in hospital until the 1st of September, a little more than two months, during the whole of which time she was kept under the influence of hemlock, its constitutional effects having been at four different periods produced; and the following is the report of her state on the day of her discharge.

The swelling has completely disappeared from her knees, so that she is able to straighten her legs, and to get in and out of bed without assistance, although she is unable to walk alone more than a few steps. She is able to raise her hands to her head, and, to use her own words, "to turn up her back hair," which she was unable to do for the last ten years. She is also able to use her needle, and to work for a long time without being fatigued, having completely dispensed with the bandage on her right thumb for the last three weeks, it has become so strong. She is also quite free from pain, and is discharged at her own request, Dr Neligan's term of attendance at the hospital having expired.—*Dublin Journal of Medical Science*, Nov. 1845.

FORENSIC MEDICINE.

M. Bonjean on the Elimination of Arsenic, &c. from the System.

One of the most important questions connected with Legal Medicine is that which regards the absorption of poisons. It is only within these few years, however, that light has begun to be thrown upon this department of animal physiology, by means of chemistry; much, therefore, is still wanting in the study of the phenomena embraced by it, and it is the duty of the chemist to seize every opportunity which enables him to throw additional light on this important subject. The interesting trial which lately occurred at Auch, (the result of which was clearly foreseen at the very commencement of the debates,)

has furnished me an occasion to substantiate a fact, intimately associated therewith; and which may be of service to legal medicine. It will perhaps be recollected that one feature in the case was, that the presumed victim, Lacoste, had, for some time previous to his death, been using a secret medicine, for the purpose of curing himself of an eruption of long standing; but he had ceased taking the medicine for fifteen days previous to his death; and on this point the prosecutor laid great stress. This fact being established, or at least supposed to be so, the prosecutor drew from it this conclusion, *that Lacoste died from poisoning by arsenic, wilfully administered to him a short time previous to his death, and that the arsenic found in the various organs of his body, by the Parisian chemists, could be attributed to no other source.* This conclusion, so dreadful to the accused, may be given as follows:—*In the course of fifteen days, our organs free themselves entirely of any arsenic which may have been introduced into them by absorption; and, after this short interval of time, every phenomenon referable to the presence of the poison has disappeared.* This proposition, dangerous in itself, and which nothing authorises us to admit, is far from being in harmony with facts of a similar nature related by celebrated men. On the contrary, it has of late been established, that in certain animals, such as the dog and the sheep, the elimination of arsenic is not complete before the lapse of *four or six weeks.* M. Flandin, one of those chemists who has made this question a subject of deep study, found traces of arsenic in the viscera of an animal which did not die till thirty-five days after the administration of the poison. But it may be asked, does absorption go on in the same way in man as in animals? Does this physiological action proceed in every case in an equal, uniform, and constant manner during the whole course of its continuance within the system? Well observed facts are indeed wanting to enable us to affirm that such is always the case. All we know is, that a large number of poisons are absorbed by our organs, and pass into the current of the circulation, whence they are eliminated by the various secretions, such as the urine, egesta, &c.; but we are entirely ignorant of the limits of absorption, as well as of those circumstances which tend to modify it.

In the mean time, we may subjoin a case which may perhaps assist in throwing light on a question interesting alike to legal medicine, therapeutics, and public hygiene.

M. X., on his way to the baths of Aix, in Savoy, called upon me, on the 24th May 1844, with the following prescription, signed by Dr Cazenave, physician to the Hôpital Saint-Louis, at Paris. Take of, *The arsenical solution of Pearson a quarter of an ounce* (8 *grammes*)*; syrup of soap-wort, one pound* (500 *grammes*). *Mix. A tablespoonful to be taken night and morning. When finished, to be renewed, with double the quantity of arsenical solution to the same quantity of syrup.* I made up the first dose for M. X., and some days after, at his request, the second. He commenced the treatment on the 26th May, and continued it without interruption to the 18th June; during this period he consumed the whole of the medicine above specified. Thus, in the course of 24 days, M. X. had taken two pounds of the syrup of saponaria, containing 24 grammes of Pearson's solution. Now, this preparation of arsenic is made up of crystallised arseniate of soda, one grain (0·05 gm.); distilled water, one ounce (32 gm.); so that 24 grammes contain *three quarters of a grain of arseniate of soda,* equal to about *half a grain* (0·48) *of arsenic acid,* or nearly *the third of a grain* (0·31) *of metallic arsenic.* On the 19th July following, M. X., at my request, forwarded me from Aix a pound of his urine, passed the previous evening, or exactly *a month* after he had ceased his arsenical treatment; this urine, after being properly evaporated, was introduced into Marsh's apparatus, and there were obtained from it *twelve particles* of a clear reddish brown colour, brilliant and shining, and which on analysis exhibited all the reactions peculiar to *metallic arsenic.* Thus, after the lapse of a whole month, the organs of an adult had not got rid of three quarters of a grain of arseniate of soda, taken in the course of 24 days! It is scarcely necessary to add, that, to avoid every chance of error, the apparatus I made use of was previously tried with a white heat, in order to insure the purity of the re-agents employed. Thus, then, contrary to

the opinion avowed by several authors, *a few days* are not sufficient for the animal economy to free itself of that portion of arsenic which may have been absorbed, and the man who has resisted a certain dose of this poison does not eliminate it in a space of time which never exceeds *twelve or fifteen days* (Chatin.) On the contrary, it tends rather to confirm this great medical principle, that the absorption of remedies is the more complete the smaller the dose in which they are administered, a principle, the exactitude of which I have verified by experiments on my own person, with various mineral salts, taken in equal doses, and at various intervals of time. The following example may suffice: After taking, in the course of a day, in doses of a glass every two hours, a *quarter of a grain* of the ioduret of potassium, dissolved in a quart of water, I was able to trace, for *seven days*, the presence of iodine in my urine, and for *six days* in my saliva. After taking, on the other hand, the same quantity of iodurated water, in the course of one or two hours, I was not able to trace the iodine in my saliva at all, and in my urine for *two days* only. Lastly, I swallowed fasting, and at a single dose, *five grains* of the ioduret of potassium, dissolved in two ounces of water; traces of iodine were discovered in the urine during *twenty-eight hours*, and in the saliva during *seventeen hours* only. During the whole day, I suffered much from abundant salivation. It will be observed how much the phenomena of absorption vary, according to the quantity of the substance taken, as well as from the larger or smaller quantity of water in which it has been dissolved, &c. I am satisfied, in the mean time, with pointing out the results which I have obtained in the course of an examination I am still pursuing; there can be little doubt they will lead to important conclusions in regard to the mode of administering medicines. From all that precedes, we may draw this safe conclusion, that there are still many questions in legal medicine on which science has yet to throw additional light; a circumstance which ought to render us cautious in all criminal investigations, more especially when it is a question of facts not yet determined by experience, but which are of such a nature as may be resolved or interpreted in favour of an unhappy individual, subjected to the terrors of the law, by a course of unfavourable circumstances.

Chambery, 21st July 1845. J. Bonjean.

—*Annales de Thérapeutiques*, 6th Sept. 1845.

PART FOURTH.

MEDICAL NEWS.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

(Continued from page 640 of August number.)

SESSION XXV.

First Meeting.—*Wednesday, 12th November* 1845.—Dr Gairdner, P., in the Chair.

A Series of Cases illustrative of the Contagiousness of Puerperal Fever, and its Intimate Connection or Association with Erysipelatous and Phle-

BITIC INFLAMMATION.—Dr Peddie commenced by saying, that he had felt it to be his duty to communicate the facts connected with these cases to the profession, as besides being important in a pathological respect, they might contribute in some degree to avert hazard from a most interesting class of patients, and preserve to the medical man that peace of mind and prosperity in practice, which might otherwise be interrupted. While candour required this course, he felt assured of obtaining sympathy on account of the painful situation in which he had been placed; and that though the unfortunate medium of spreading a fatal disease, no larger share of blame would be imputed to him than appeared due, when the history of these melancholy cases had been carefully considered.

CASE 1. Mrs S., aged 32, previously weak in health and depressed in spirits, entertaining a presentiment of approaching death, was delivered on the 2d Sept. after an easy labour. She was not carefully nursed. She was seized on the third day with fever, which soon assumed the principal features of the malignant adynamic type, as described by Locock and others; and died on the 10th,—the eighth day from her accouchement.

CASE 2. Mrs W., aged 23, a poor woman, was attended by Dr P. for another practitioner, at the time out of town. She was a very delicate person, and predisposed also to fever by a strong presentiment of death. She was delivered after a very easy labour, although her first child, on the 7th Sept., and afterwards transferred from Dr Peddie's care. She had begun to complain on the third day, and died on the 13th,—the sixth day from her accouchement,—with all the symptoms of the adynamic fever, complicated with much intestinal irritation.

Dr Peddie was not aware of this person's illness and death until after he had delivered his next patient.

CASE 3. Mrs K., aged 25, also delicate, and in extremely low spirits, was delivered on the 14th September of her second child. The labour was natural and easy. She fevered on the 16th; her case afterwards presented nearly the same features as those in Case 1; and she died on the 21st, seven days from the period of her confinement.

On the appearance of fever in Mrs K.'s case, and on finding that no epidemic prevailed, Dr Peddie perceived that a contagious puerperal fever had broken out in his practice, and immediately consulted with several medical friends as to whether he should now give up all obstetric engagements for a time. The advice received was to comply as usual with the next call for attendance, but to adopt every possible precaution against the transmission of the virus farther. Accordingly, by assiduous attention to sprinkling and washing, with the solution of the chloride of lime, proper arrangement of visits, and change of garments,—not forgetting even the gloves and handkerchief, he secured the safe delivery and recovery of three patients,—the first on the 19th, the next on the 22d, and the last on the 25th of September. That none of these patients showed the smallest tendency to fever was the more satisfactory and encouraging, as the first and last were rather delicate, and the other was sister to Mrs S. (Case No. 1.) who died only twelve days previously, and with whom she was much in contact. This too was the more singular, as she was in a state of so much alarm, in the prospect of her own approaching hour of trial, as to be seized with labour rather prematurely. Dr Peddie's anxious fears regarding the further propagation of the disease were thus lulled into security; and he felt disposed to view the occurrence of three consecutive cases of fever as one of those remarkable coincidences with which medical men occasionally meet; or if they really were instances of contagious fever, that the virulence of the morbific influence was exhausted, or could be overcome by the adoption of precautions. These sanguine hopes, however, were soon distressingly disappointed by the occurrence of the two following cases in rapid succession.

CASE 4. Mrs T. aged 29, was delivered of her second child at 12 noon, on the 26th September. She resided a few doors from Mrs K. (Case No. 3,) whom she attended on the evening of her confinement, and visited frequently until the 16th, when the fever shewed itself; again on the 18th, although strictly prohibited, when she assisted in effecting a change of clothes and bedding. She was afterwards likewise exposed to contagion from the constant intercourse of

friends between the two dwellings. Her labour was very easy, and she had every appearance of doing well until next day at 12 o'clock noon, when she fevered, and death occurred in the evening of the 30th,—the third day from the period of accouchement.

Case 5. Mrs T. aged 23, was delivered of her first child at 12 o'clock noon on the 27th September, after a natural but rather tedious labour. It was completed some hours before Dr Peddie had an opportunity of knowing that his last patient (Case 4,) had been seized with the fever; and on making his evening visit he found that she too was already affected with the dreadful malady. Death took place at 3 A.M. on the 30th, less than three days from the time of her confinement.

Dr Peddie considered it beyond question, that Mrs T. (Case 4,) had obtained contagious fomites from his last fatal case, (No. 3,) and while herself affected therefrom, had communicated the virus anew to his person, who conveyed it unconsciously to Mrs T. (Case 5), in whom it was developed almost from the moment of parturition.

Dr Peddie now abandoned the practice of midwifery; was confined at home for several days, being much indisposed with sore throat, fatigue, and anxiety; took medicine, and the warm bath; exposed the clothes worn at all these cases in an airy chamber, and sprinkled them from time to time with the sol. of the chl. of lime; and went into the country for eight days, four of which were spent at the sea-side, and four on an excursion into Perthshire and Stirlingshire. A fortnight, less one day, thus elapsed before Dr Peddie resumed practice, and accepted (on the 13th October) the next obstetric call, in consequence of urgent solicitation. Dr Peddie entered into a minute detail of the symptoms of this case, (Mrs M.'s, aged 30, first child,) which unhappily proved fatal on the 24th October,—11 days from the period of her accouchement; and he gave it as his own opinion, after much careful consideration, that he could not persuade himself of its having been a case of contagious puerperal fever, as there was a total dissimilarity in symptoms and mode of termination from the preceding characteristic cases, and as she had been in a most critical state of health for a considerable time previous to labour, with ulceration of the bowels, dilatation of the heart, and general debility. Dr Peddie, however, stated, that lest his opinion was incorrect, he had felt it to be his duty again to withdraw from midwifery practice for some time to come.

After some remarks on the nature of puerperal fever, and the opinion of authors concerning it, Dr Peddie narrated several cases of erysipelas, phlebitis, and peritonitis, attended by him at the same time, and mixed up with his puerperal cases. From one of these, he thought it probable that *the animal poison producing the line of disastrous events in the accouchement chamber, originated*, and referred in proof of this opinion to parallel instances related by Mr Storr of Doncaster, in the *Provincial Journal*, No. 166, 1843. The subject was a gentleman with gangrenous erysipelas, spreading from sinuses surrounding the right hip-joint, which took their origin from a mismanaged bubo, and a much impaired constitution. It was the most malignant case of the kind ever witnessed by Dr Peddie—proving fatal on the 13th September, after the body had become deeply jaundiced, and large purulent deposits, with considerable emphysema, had formed in the right knee and left shoulder-joints, as also among the muscles of the right fore-arm. This patient required dressings twice daily on account of the profuse discharge of dark-coloured fœtid matter from the sinuses, and it was while attending to him, although ablutions were regularly performed, that Dr Peddie delivered Mrs S. and Mrs W. (Cases 1 and 2), and on the day following his death, Mrs K. (Case 3). Dr Peddie then gave an account of several cases *of disease, undoubtedly originating from the puerperal fever case*, (No. 3), thus affording a reflex proof of the existence of a puerperal contagious virus, affecting non-puerperal individuals according to their special circumstances. One of them—a lady's nurse who assisted frequently at Mrs K.'s, was seized on the 25th September with fever,—the symptoms at first being chiefly referable to the abdomen, and then to acute phlebitis of the right fore-arm, from which she had been bled, and died delirious on the 2d October. Another was a nurse

who had acted occasionally at Mrs K.'s, had also waited on the sick nurse, for one day, and had visited Mrs T. (Case 4) on the afternoon of her confinement. She was affected with erysipelas of the head and face, from which she recovered with difficulty. And a third was an old lady (Mrs A.) who was lodging in the house of the lady's-nurse, with whom she took fever simultaneously; which, however, in her case proved to be mild. It was also remarked, that almost every individual who had visited at Mrs K.'s during her illness complained soon afterwards with ailments of one kind or another, particularly with slight feverishness and sore throats; and it was at this time also that Dr Peddie himself became affected in the same way.

Dr Peddie concluded his communication, by stating the following as the principal points which he thought the facts mentioned seemed to prove:—

1. That a specific virus, of an animal nature, is produced under certain circumstances, and in turn generates a peculiar form of fever in the puerperal state.

2. That that virus frequently originates from erysipelatous inflammation.

3. When once generated, it may be communicated from one lying-in patient to another with extraordinary virulence, quite independently of locality or epidemic influence, either by direct intercourse, or through the medium of a third person; and that this is more likely to happen where the predispositions of a weak body and a depressed mind exist.

4. That it may also produce disease of various kinds in non-puerperal individuals,—more especially of an erysipelatous and phlebitic character.

5. That the treatment of a contagious puerperal fever, whether directed by theoretical opinions, or the indications of physical signs, proves of little avail; but that if any theory is to be entertained respecting this malady, it should be, that something of a specific and morbific nature requires to be thrown out of the system, and the powers of life at the same time sustained; and that the practice which holds out the greatest prospect, small at best, of this being accomplished, is the adoption of the diaphoretic and stimulant plans, according to the stage of the disease.

6. That the principal concern of the medical man should be, (seeing that a cure is so rare,) to adopt every conceivable precaution against the occurrence of a single case of the disease, or to lessen the risk of its propagation when once established in his practice. And to attain these ends, patients in childbed should either not be attended at the same period with cases of malignant or severe erysipelas, or that proper caution should be observed as to ablutions, more especially after contact with any discharge from such patients; and when a case of puerperal fever does occur,—lest it should be something more than sporadic, —chlorinated ablutions and change of garments is first required; and should a second case occur, it would be the safest plan for the practitioner to abandon the practice of midwifery for a time,—two or three weeks, if possible, and in the interim attempt, by removal into the country, warm baths, and other alterative and purifying means, and by the exposure of clothing to a free atmosphere or a high temperature, to rid himself of the subtle and powerful virus which adheres to him so tenaciously.

VARIETIES.

Dr Palmer's Projected Polyglot Lexicon of Medicine and the Natural Sciences.

To Dr Cormack.

Sir,—In several of the numerous, and uniformly most favourable reviews of the *Pentaglot Dictionary* lately published by me, I have been earnestly invited to redeem my pledge of supplying indexes to that work in the English and Italian, or called upon to compile others in divers of the European languages.

Incited by these claims upon my intellect, as unexpected as they are ho-

nourable and gratifying to me, I have already made great progress in framing an *English-French Index* to the dictionary. This will, ere long, be published. But, as the compilation of separate indexes for all the various languages is a labour from which even my daring spirit would recoil, I have devised a plan which will, I trust, satisfy every claimant.

Below, is presented a specimen of a *Polyglot Lexicon of Medical and Scientific Terms*, in eleven or twelve languages. It will comprehend all the more important and legitimately-constructed terms in Anatomy and Physiology, Human, Comparative, and Pathological; Nosology; Pathology and Practice, Medical, Chirurgical, and Obstetric; Ophthalmo-Pathology and Otiatrics; Medical Jurisprudence and Police; Hygiène and Dietetics; Materia Medica and Pharmacy; Medical Zoology, Botany, Mineralogy, and Chemistry; Physics; Meteorology, Geology, and Palæontology. The selection of the *Latin* as the leading term, will render this Lexicon available to the educated and scientific of every country of Europe.

While forming an important appendix to the *Pentaglot Dictionary*, the new volume will also constitute a distinct and independent work, valuable and interesting, if ably executed, not only to the enlightened practitioner of medicine and surgery, but to the man of science, the student of philology, and the naturalist; and exhibit the outline of that more perfect and gigantic edifice, the groundwork of which has long existed in my mind; and of which, if a few more years of life and intellectual vigour be granted to me, I despair not of completing the lofty superstructure.

On the specimen, thus submitted to their inspection, I earnestly invite the attention, and solicit the criticism, of learned and enlightened men. Every hint for the improvement of the projected Lexicon, will be most respectfully received, and gratefully acknowledged, by me: with the distinct understanding, however, that no proposal for the addition to it of other languages can be, for one moment, entertained.—I have the honour to remain, Sir, obediently yours,

SHIRLEY PALMER.

Specimen of a Polyglot Dictionary of Medical and Scientific Terms; beginning with the LATIN, *and terminating with the* FRENCH; *intended as a general Index and Supplement to the Pentaglot Dictionary of Medicine, lately published by* DR SHIRLEY PALMER, *of Tamworth, and Birmingham.*

LATIN.	
ABOMASUS, i, s. m. vel ABOMASUM, i, s. n. (Anatom. Comparat.)	,—τὸ ἥνυστρον,—ventricino, It.,—cuajar, Hisp.,—ventriculo, Lus.,—Käsemagen, Laab, Lab, Labmagen, Germ.,—Leb, Agterpens, Belg.,—Löbemave, Dan.,—Löpemage,, Suec.,—maw, rennet-bag, fourth stomach of *Ruminantia*, Angl.,—ABOMASUS, CAILLETTE, Gall.: ventriculus quartus Animalium Ruminantium. Synon. *Faliscus*, *Ventriculus intestinalis*, Lat.
ACEPHALUS, a, um, adj. (Anatom. Patholog.)	,—ἀκέφαλος,—acefalo, It., et H.,—acephalo, L.,—kopflos, ohne Kopf, G.,—zonder Kop, B.,—hovedlos, uden Hoved, D.,—hufvudlös, S.,—acephalous, headless, without head, A.,—ACÉPHALE.
ACIDUS, a, um, adj. (Chymia.)	,—ὀξύς,—acido, It. et H.,—azedo, L.,—sauer, G.,—zuur, B.,—suur, D.,—sur, S.,—acid, sour, A.,—ACIDE, AIGRE.
ALA, æ, s. f. (Anatom., Zool., Bot.)	,—τὸ πτερόν,—agaph, ebir, of the *Hebrew*,—ala, It., et H.,—aza, L.,—Flügel, G.,—Vleugel, Vlerk, Wiek, B.,—Vinge, D., et S.,—wing, A.,—AILE.
ANEURYSMA, atis, s. n. (Pathol. Chirurg.)	,—τὸ ἀνεύρυσμα (ἀνευρύνω, dilato),—aneurisma, It., H., et L.,—Aneurisma, Aneurysma, Pulsaderbruch, Pulsadergeschwulst, G.,—Slagaderbreuk, B.,—Pulsaare-

byld, D.,—Pulsäderbräk, S.,—aneurism, A.,—ANÉVRISME: arteriæ tunicarum dilatatio vel ruptura, Lat.

ANTHEMIS, idis, s. f.
(Botan. Medica)

: Plantarum Genus (*Syngenesia, Polygam. superfl. Corymbiferæ*) la Camomilla, Anthemide, It.,—la Manzanilla, H.,—a Macella, L.,—die Kamille, Afterkamille, G.,—Kamille, B.,—Camilleblomst, Kameelblomst, D.,—Kamillblomma, S.,—the Chamomile, A.,—la CAMOMILLE.

A. *nobilis.*

,—τὸ χαμαίμηλον,—camomilla odorosa, It.,—manzanilla noble,—odorosa,—romana, manz. de botica, H.,—macella nobre ou romana, L.,—edle—gemeine—römische Kamille, G.,—edle of roomsche Kamille, B.,—ædele eller romerske Kameebblomst, D.,—Romersk Kamillblomma, S.,—common or Roman Chamomile, A.,—CAMOMILLE *odorante* ou *romaine.*

ANTIDOTUM, i, s. n.
(Jurispr. Medica)

,—τὸ ἀντίδωτον,—antidoto, contravveleno, It.,—antidoto, contraveneno, H.,—antidoto, remedio contra o veneno, L.,—Antidöt, Gegengift, G.,—Tegengift, B.,—Modgift, D.,—Motgift, S.,—antidote, counter-poison, A.,—ANTIDOTE, CONTRE-POISON.

APIS, is, s. f.

Insectorum Genus (*Mandibulata; Hymenoptera*) typum Familiæ Apum constituens, vide APIDÆ,—Ape, Pecchia, It.,—Abeja, H.,—Abelha, L.,—Biene, Imme, G.,—By, B.,—Bie, D.,—Bi, S.,—Bee, A.,—ABEILLE.

A. *mellifica,—domestica,—vulgaris.*
(Zoologia Medica)

,—ἡ μέλισσα, μέλιττα,—Deborah, of the *Hebrew*,—ape, pecchia, It.,—abeja, H.,—abelha caseira, L.,—Honigbiene, G.,—Honigby, B.,—Honingbie, den tamme eller almindelige Bie, D.,—hemtamdt-Bi, S.,—honey-bee, hive-bee, common or domestic bee, A.,—ABEILLE *à miel*, A. *domestique*, ou *des ruches*, G. Vide CERA, CERINTHUS, MEL, et PROPOLIS.

ARBOR, is, s. f.
(Botanica)

,—τὸ δένδρον,—gnits, of the *Hebrew*,—albero, arbore, It.,—arbol, H.,—arvore, L.,—Baum, G.,—Boom, B.,—Træ, D.,—Träd, S.,—tree, A.,—ARBRE.

ARCUS *cælestis*, s. m.,
(Meteorologia)

,—ἡ ἶρις, τὸ τόξον,—kaisheth, of the *Hebrew*,—arcobaleno, arco celeste, iride, It.,—arco celeste, arco iris, iris, H.,—arco celeste, arco da velha, L.,—Regenbogen, G.,—Regenboog, B.,—Regnbue, D.,—Regnboge, S.,—rain-bow, A.,—ARC-EN-CIEL. Synon. *Iris.*

ARCUS *senilis*, s. m.
(Ophthalmopathol.)

,—arco senile, It.,—arco senil, H. et L.,—Altersbogen, Greisenbogen, G.,—senile arch, A.,—ARC *sénile*, Gall. Synon. *Gerontoxon.*

ARGENTUM, i, s. n.
(Mineralog., Chymia)

,—τὸ ἀργύριον,—ceseph, of the *Hebrew*,—argento, It.,—plata, H.,—prata, L.,—Silber, G.,—Zilver, B.,—Solv, D.,—Silfver, S.,—Silver, A.,—ARGENT.

AVIS, is, AVES, pl.,
s. f.
(Zoologia general.)

,—ὁ καὶ ἡ ὄρνις, οἱ καὶ αἱ ὄρνιθες, pl.,—tzippor, tzipporim, of the *Hebrew*,—ucello, ucelli, It.,—ave, aves, paxaro, paxaros, H.,—passaro, passaros, L.,—Vogel, Vögel, G.,—Vogel, Vogelen, B.,—Fugl, Fugle, D.,—Fogel, Foglar, S.,—bird, birds, A.,—OISEAU, OISEAUX.

Chemicus, Chymicus, a, um, adj. (Chemia)	,—χημικὸς, (χημεία, mod. Gr., chema, *Arab.*, arcanum) —chimico, It.,—quimico, H.,—chimico,—chymisch, L., G.,—chemisch, B.,—chymisk, D.,—chemisk, S., —chemical, chymical, A.,—Chimique.
Cranium, ii, s. n. (Anatom. descript.)	,—τὸ κρᾶνιον, ὁ κόγχος,—gulgoleth, of the *Hebrew*,—cranio, teschio, It.,—craneo, casco de la cabeza, H.,—craneo, casco da cabeça, L.,—Hirnschädel, Hirnschale, G.,—Bekkeneel, Hirsenbekken, Hersenpan, Hoofdpan, B.,—Hierneskal, Hovedskal, D.,—Hjernskäl, Hufvudskäl, Hufvudskälle, S.,—skull, brain-pan, A.,—Crâne. Synon., *Calvaria.*
Embryotomia, æ, s. f. (Zootomia et Ars obstetrica.)	,—ἡ ἐμβρυοτομία,—embriotomia, It., H., et L.,—Embryotomie, die Zerschneidung der unzeitigen Frucht, G.,—die Ontleeding van een unvolwassene Vrucht, B., —embryotomy, dissection, or dismemberment, of the fœtus, A.,—Embryotomie.
Febris, is, s. f. (Pathologia.)	,—ὁ πῦρετὸς, ἡ πύρεξις,—kaddachat, of the *Hebrew*,—febbre, It.,—fiebre, H.,—febre, L.,—Fieber, G.,—Koorts, D.,—Feber, D., et S.,—fever, E.,—Fièvre.
Ichthyolithologia, æ, s. f. (Palæozoologia.)	,(ἰχθὺς, piscis, λίθος, lapis, λόγος, sermo), ittiolitologia, It.,—Ichthyolithologie, Fischversteinerungslehre, G., —ichthyolithology, treatise on fossil fishes, A.,—Ichthyolithologie.
Lac, tis, s. n. (Physiol., Diætetica.)	,—τὸ γάλα,—chalab, of the *Hebrew*,—latta, It.,—leche, H.,—léyte, L.,—Milch, G.,—Mëlk, B.,—Melk, D., —Mjölk, S.,—milk, A.,—Lait.
Phytolithus, i, s. m. (Palæophytologia.)	(φυτὸν, planta, λίθος, lapis),—fitolito, It.,—Phytolith, Pflanzenversteinerung, G.,—phytolite, fossil plant, A.,—Phytolithe.
Spongia, æ, s. f. (Materia Medica.)	,—ὁ σπόγγος,—spugna, It.,—esponja, H., et L.,—Säugeschwamm, Schwamm, G.,—Spons, Sponsie, B.,—Swamp, D. et S.,—Sponge, A.,—Eponge.
Terra, æ, s. f. (Geolog., Geognosia.)	,—ἡ γῆ,—eretz, of the *Hebrew*,—terra, It.,—tierra, H., —térra, L.,—Erde, G.—Aarde, B.,—Jord, D., et S.,—earth, A.,—Terre.

SHIRLEY PALMER, M.D.

Birmingham, September 22, 1845.

Explanation.—In the preceding specimen, the gender of the leading *Latin* substantive has been marked, with its termination in the genitive case, and sometimes in the plural number. The mode of declension of the adjective is also shown, and the particular department, or departments, of science to which each article belongs. The characters in which the *Greek* synonyme is printed, sufficiently indicate the language. The *Hebrew*, when introduced, has been specially noted. The abbreviation, Lat., Latinus, signifies *Latin;* It., Italicus, *Italian;* H., Hisp., Hispanicus, *Spanish;* L., Lus., Lusitanicus, *Portuguese;* G., Germ., Germanicus, *German;* B., Belg., Belgicus, *Belgic;* D., Dan., Danicus, *Danish;* S., Suec., Suecicus, *Swedish;* A., Angl., Anglicus, *English;* and Gall., Gallicus, *French.* The concluding term, which refers to the cor-

responding article in the PENTAGLOT DICTIONARY, is, when not otherwise specified, invariably in the *French* language.

S. P.

BIRMINGHAM, Friday, September 12, 1845.

OPINIONS OF THE MEDICAL PRESS REGARDING DR CORMACK AND THE EDINBURGH INFIRMARY MANAGERS.[1]

From Lancet, Nov. 8.

"A consideration of the entire transaction leaves the impression that Dr Cormack has grounds of complaint against the Managers of the Infirmary. There certainly appears to have been an *animus* against him. In the first instance, the permission to give private clinical lectures, which was refused to him, had, it appears, been granted in the March previously to Dr Douglas, the junior physician: again, Dr Cormack, having become second acting physician, by the temporary retirement of Dr Craigie, and having been entrusted with the charge of Dr Craigie's wards, was evidently entitled to the natural privileges of his position, and ought to have been allowed to lecture in lieu of Dr Craigie, especially as Dr Paterson had lectured the previous session. We much regret, however, that Dr Cormack should have thought himself called upon to resign, as, in all probability, by so doing, he has precisely acted as the Managers of the Infirmary wished. Dr Cormack is evidently too active, energetic, and enlightened a physician to meet their views; and we are not surprised that his resignation should have been at once accepted.

"Setting aside all personal considerations, this discussion brings forcibly before the public notice two important questions: the hours at which medical functionaries visit hospitals and infirmaries, and their right to deliver clinical instruction to pupils on the cases which they treat.

"We are pleased to find an universally respected physician, like Dr Cormack, who, at the same time that he is actively engaged in the practice of his profession, is also devoting his energies to the improvement of medicine as a science, testifying publicly to the impossibility for a physician, with even a moderate amount of private practice, conscientiously to discharge hospital duties, if he is obliged to attend to them in the middle of the day. This Dr Cormack has found to be the case from his own personal experience; and that, because he does not run through the wards, as many physicians do—merely glancing at their patients—but devotes to them the time and attention which they really require, as is proved by the valuable work which he published last year, on the epidemic fever that reigned in Scotland in 1842-3. This treatise shows that Dr Cormack, in visiting his hospital patients, is in the habit of carefully examining them; of noting down their symptoms daily at the bed-side; and of himself conducting the *post-mortem* researches. To do so carefully, an hospital visit, conducted on this principle, must consume at least a couple of hours daily; and common sense tells us that a physician, with practice, cannot take a couple of hours from the most valuable part of the day with impunity to his private interests; especially when we recollect that, in all probability, he has been remaining at home all the morning for private consultation. The result of the present irrational hours of attendance is, that the hospital patients are neglected by the physician rising into practice; although, generally speaking, his attendance is only required three times a-week, instead of every day, as it ought to be. In the course of time, indeed, the hospital attendance nearly always becomes so intolerable a bore that the appointment is thrown up. In the meanwhile, the invaluable opportunities for improving medical science, which hospital appointments offer, are lost, even by the most conscientious. How can a physician, who sees his patients on the run, whose mind is occupied with the idea that he has two or three timed consultations to attend, and a score, or half a score, more or less, serious cases to see in private life, in the course of the afternoon, quietly and calmly examine all the symptoms which

[1] The correspondence will be found at p. 866 of last number.

his hospital patients present, devoting half an hour to one case, as he must frequently feel himself morally compelled to afford. How different would be the state of things were the visits to take place early in the morning. The conscientious energetic physician would then retire an hour or two sooner, and rise an hour earlier, in order to devote additional time to his hospital wards. We should then have physicians and surgeons of eminence making their thousands in private practice, and still devoting one, two, or three hours daily to hospital duties, like Chomel, Roux, Velpeau, Bouillaud, and nearly all the medical celebrities of Paris; thus enabling both the poor and the profession to benefit by their enlarged experience. For the sake of the patients, the governors of all hospitals and infirmaries ought to enforce this necessary reform.

"The extraordinary conduct of the Managers of the Edinburgh Infirmary with respect to Dr Cormack's request to be allowed to deliver clinical courses of instruction to the pupils who follow him in his visits, reveals a state of blind narrow-minded ignorance of the true interests of the patients, and of medical science, which we should scarcely have credited on the part of public functionaries in modern Athens, had it not been so clearly proved. It is really impossible to conceive on what grounds so natural a demand as that of Dr Cormack, and one so modestly put, could be rejected. As we stated a few weeks back, when discussing the same subject with reference to the Leicester Infirmary, hospitals have twofold purposes to serve. Firstly, and principally, they are destined to afford relief to the sick poor who are received within their gates; and secondly, they are called upon to furnish to those who are learning the symptoms and nature of disease, with a view to treating it out of hospitals, an opportunity of studying on a large scale, under the eye, and with the assistance of men who are supposed to possess a more than ordinary amount of information respecting the healing art. This, which we may call the second obligation of hospitals, ought to be furthered in every possible way; and in none can it be more advanced than by encouraging the medical officers in giving clinical instruction to pupils. Dr Cormack ought to have received the warmest thanks and approbation of the Managers of the Infirmary, instead of being flatly and uncourteously denied his request."

From Medical Gazette, Oct. 31, 1845.

"Dr J. R. Cormack has resigned the office of physician to the Royal Infirmary. The reason for this step is, that Dr Cormack was not allowed, upon his application, to deliver clinical lectures or private clinical lessons to a certain number of pupils. It seems that this has hitherto been the privilege of the senior physician. Without entering into the merits of the dispute between Dr Cormack and the Managers, it appears to us that his request was a reasonable one, and that all physicians attached to an hospital should, at their option, be allowed to impart instruction in any way they please. We believe that no such restrictions exist in the large hospitals of this metropolis."

From Medical Times, Nov. 22, 1845.

"Lying before us is a pamphlet consisting of a series of letters passed between Dr Cormack and the Managers of the Royal Infirmary of Edinburgh, relative to the subject of clinical teaching in that said hospital. We refer to the matter, not from any particular feeling we entertain towards either party—of the latter we know nothing, and we know the former chiefly by repute—but from a dislike we have to injustice, whoever may be its recipient, and a desire we have to aid any honourable scheme which may further the interests of the profession, or its individual members. The subject of hospital appointment and hospital duty is particularly interesting in this country, from the extraordinary anomalies with which it abounds. [Large men and little ones, wise men and simple, men with merit and men without it, men of good character and men of bad, men known to science and the profession, and men strangers to both—all come within the range of hospital functionals. Favouritism, fortune, accident, money, and sometimes merit, determine the appointments. Amongst the motley group, therefore, that slide, shuffle, slip, or walk stately, as men ought to

do, into these said places, there are some that are good for much, and others that are good for nothing. Now, however the chances may be *for* or *against*, in the inducting process, *once inducted*, the men ought to stand on their own merits, ought to rise or fall according as they may be able to do the one, or may deserve to do the other. The duty of such a post is serious, and big with interest; nor should any man be crippled in his laudable endeavour to do whatever good his occupation may throw in his way. If he be foiled in his generous and just efforts, great is the crime of those who have placed impediments in the path of his good intention. Nor can it be considered that we are trespassing upon propriety or privilege in stating these truths; for they seriously concern the public, and still more seriously the profession, for both of whom, but especially the latter, we are called upon to express the opinions of our best judgment.

"Two things are paramountly required in an hospital medical officer—knowledge of his subject-matter, and industry. Whether the former be the rule or the exception amongst such men, our personal information does not permit us to say; but we will *hope* that it is the rule, seeing that our opinion is, it *ought to be*. As regards the latter, it is a most excellent quality, to what class of men soever it may belong. It will improve an inferior man, and make a good man better. Even a stupid fellow is the better for it, and by how much the more a man may be enlightened, by so much the more will he be worthier for its possession. It is rarely that we find a man in a public capacity over anxious to work, but when such a man *is* found, and the collar fits him, let him pull, say we. Dr Daubeny asked a waggoner, one day, why a particular horse was called by the name of 'Doctor?' 'I don't know, Sir,' said the man, 'except that he is the heaviest and laziest in the whole team.' This is an old joke, though a harmless one, against us, and we can afford to bear it, because its application is but limited. For this very reason, were there none other, our industry ought to be respected, and encouraged in all the occasions of its exercise.

"The great, nay the almost exclusive business of an hospital, we take to be Charity—no matter of what sort, or upon what objects it be dispensed. If the gift be in accordance with the *specific* intentions of the institution, the larger that gift, and the more ample its distribution, the better will the purposes of the establishment be fulfilled. The business of an hospital, all the world over, *is to cure disease, and to teach the cure of it*. And that in such place is such work more ably executed than elsewhere, is proved in the universal concession that, nowhere can medico-chirurgy be better taught, or better practised, than in an hospital.

"We should say that, in an hospital where pupils are entered, a most important feature in the transactions of it, is the correct and efficient teaching of those pupils. It is scarcely secondary to the treatment of the sick themselves, because it is the training of men who are hereafter to be practitioners, and who will in future practise well or ill, according to the advice and direction they may receive during their period of probation. If they be incorrectly or inefficiently taught, there is no saying how great may be the sacrifice, or how many the sufferers. These are our fundamental reasons for thinking that the admirable practical opportunities for clinical instruction which occur in an hospital should never be neglected—that the system of bed-side tuition should be regularly pursued therein—and that no medical officer, able and willing to work, should be denied the privilege of teaching. Some hospital managers, however, think otherwise, and not distinguishing between Hippocrates, whose godship belongs to us, and Harpocrates, whom themselves would be the better for symbolising, they fancy the old imager of silence is the most fitting genius to preside where medico-chirurgy is publicly practised. They think, contrary to Bacon, that it becomes the physician to be wise by signs, or at least, that whatever his *talk* may be it must not amount to *teaching*. This function they affirm not to consist with the specific gravity which his name denotes.

Doctor, a non docendo, ut lucus a non lucendo.

In fact, they declare he ought to be, as the owl said of himself, 'not much of a hand at talking, but *a good un to think!*'

"Other managers, again, not prejudiced, but partial, consider teaching to be very good in its way, provided you don't have too much of it; for then, as the adage goes, it becomes good for nothing. They believe that to be over-taught is as bad as to be over-fed, and therefore, to prevent anything like intellectual gluttony, and keep the appetites of voracious learners in proper check, they limit the supplies! This is the case with the Managers of the Royal Infirmary of Edinburgh, and it has also been the cause of the correspondence above referred to. The main circumstances of the affair are these:—

"Dr Cormack feeling, justly we think, that 'the labourer is worthy of his hire,' and finding that he could not conscientiously discharge the duties of his office, and at the same time do himself justice, without some remuneration, and, moreover, that other men holding a like situation to his own did indirectly derive profit from it, he 'suggested to several of the Managers that some remuneration to the physicians was absolutely necessary, if they wished to command adequate attention to the suffering poor entrusted to their charge.' He 'was assured, however, that it would be useless to bring any such proposition before the Board." Failing in this, he 'next attempted to effect some change in the system of clinical instruction, whereby he might have some indirect advantage from his appointment. The privilege of giving *any kind* of clinical instruction in Edinburgh, has been limited by the Managers to two or more university professors, and alternately to one of the two senior physicians. 'I never could see,' says Dr Cormack, 'the propriety of this monopoly.' Nor could any body else we should say. Accordingly, he addressed a letter to the managing officials, requesting to be permitted in the ensuing session, 'to offer private clinical lessons to a class of *not more than ten pupils*.' What he contemplated was, '*not the giving of clinical lectures*, but of familiar practical lessons, on the plan which, in the previous March, Dr Douglas was permitted to pursue.' The Managers, after some deliberation, 'resolved that it was not expedient to grant the privilege sought by' Dr Cormack. To us this really seems an anomalous decision. In the first place, there was a precedent for what Dr Cormack asked, and why then deny to *him* what they had thought fit to concede to another? Nay, that very act of concession was the instituting of a custom which they had no just right to annul, except by the establishment of a specific resolution or law, directed specially against it, and that on the score of its inadmissibility. By what authority or for what reason did they dispense an official favour to one gentleman, and withhold from another a like boon, when he voluntarily asked it at their hands? What was the particular position occupied or assumed by Dr Douglas, not to be occupied or assumed by Dr Cormack? To us the distinction appears strange, and at least ought to have been accounted for by those who made it. Dr Cormack's request was as modest as it well could be, for though he desired to benefit both the hospital and himself, yet he solicited nothing which, being granted, could at all interfere with the established prerogatives of certain of his colleagues. His wish, it seems, was 'not to be a competitor with the present clinical lecturers, as attendance upon them would still be *compulsory*, and upon himself purely *voluntary*.' Certainly, as at present advised, we can see nothing unfair or unnatural in asking a favour which may be granted without partiality, and enjoyed without prejudice. The hospital would have been served, Dr Cormack would have been a gainer; and it is not shown that any man would have lost, by the sanction that was sought. It was positively denied, however: and this, added to the occurrence of other differences of a less general nature, induced Dr Cormack to tender his resignation."

Clinical Teaching in the Edinburgh Infirmary.—The impression went abroad after the resignation of Dr Cormack, that Dr Douglas would be allowed to continue his private clinical lessons, although Dr Cormack was not permitted to give this kind of instruction. It was also currently reported that this privilege, and, perhaps even that of clinical lecturing, would be conceded to Dr Cormack's successor. The Managers corrected these rumours, by withdrawing from Dr Douglas his licence to give private lessons on the stethoscope, and by

issuing to each of the candidates the following circular some days previous to the election.

"Royal Infirmary, 4th Nov. 1845.

"Sir,—I am directed by the Managers of the Royal Infirmary to intimate to you, as one of the candidates for the office of Physician, now vacant, that the Physician will be elected under the existing regulations, by which the two junior physicians are not allowed to lecture. The election takes place on Monday next. I have the honour to be, Sir, your most obedient servant,

"Peter Bell, Clerk."

The receipt of this letter, and the withdrawal of Dr Douglas' licence to teach the stethoscope, caused Dr Spittal to retire from being one of the candidates.

Appointment of Dr Wm. Robertson as Physician to the Edinburgh Infirmary.—The vacancy in the medical staff of the Edinburgh Infirmary, caused by Dr Cormack's resignation, has been filled up by the appointment of Dr Wm. Robertson. There were four candidates, viz. Dr Andrew, Dr J. H. Bennett, Dr Makellar, and Dr Wm. Robertson. Without any disrespect to the latter gentleman, and without wishing to detract one item from his merits, we must state in fairness to the senior candidates, that the Managers had no legitimate ground for passing them over, and preferring their junior.[1] This is not our opinion only, but the opinion expressed by the profession in Edinburgh. Were another vacancy to occur at present, would there be found a single Fellow of the College of Physicians soliciting it? We think not; and if not, what could then be done, as it is from that body alone that the charter allows the Infirmary Physicians to be chosen? As individuals, every member of the Board is highly esteemed and respected; and it is but justice to them to state, that they labour under the disadvantages of being a self-elected body, whose deliberations, being strictly private, are deprived of the salutary corrective influence of general opinion.

Hospital Appointments and Duties.—Dr Jeffreys of Liverpool, an eminent veteran of our profession, has addressed a letter to the *Prov. Med. and Surgical Journal*, from which we make the following extracts:—

"The quick succession of junior members in the medical profession, brings forward candidates for appointments to hospitals and other medical institutions with such rapidity, that these offices are both sought for and filled up from motives, and by means, I will not trust myself to analyse. It is sufficient to say that there is too often reason to doubt whether the patronage is pure or the party patronised sufficiently aware of the responsibilities incurred. . . .

"There are no class of men in society do so much good, and so disinterestedly, as medical men; yet I am quite confident they would be more highly thought of if it were otherwise. I say, then, let every medical man, whether he be a physician or surgeon, *be paid* a small stipend annually for his services from the funds of the charity; not that it will be either prudent or possible that such stipend can be anything like adequate remuneration. No medical nor surgical officer should be allowed to hold his situation unless he consent to become a teacher, so that by his small stipend from the hospital, his fees from pupils to his class, and, it is supposed, some private resources, he may be somewhat independent of private practice for seven, ten, or more years; and, by a succession in rotation, the public would be sure of having able physicians and skilful surgeons, while the unworthy and petty jealousies, which are too evident in the times in which we live, would be in a measure restrained and counteracted. I have much more to say upon this subject, but neither my time, nor, I suspect, your space will admit of it."—*Prov. Med. and Surgical Journal*, Nov. 12, 1845.

Clinical Study.—*(Extract from an Introductory Lecture by Dr Corri-*

[1] The youngest man, it is said, in the College of Physicians.

gan.)—That wide field of supply of facts for observation, which only anxious, studious years of after-life can supply, is presented to you in the wards of an hospital: and here, if you have only common industry and application, you can collect in early life more real experience than you can perhaps ever attain in after-life.

I have now fixed these two positions prominently before you:—

1st, "That it is experience, in the strictest sense of the word, on which you must hope to rely for success in your profession."

2d, "That experience is but an accumulation of facts, which may be attained by years of painful and unassisted labour after you enter on the world, but which you can acquire in early life, and within a short period, by close attendance on your hospital practice."

These two being established, bring me to my third point, the explanation of the way in which that experience is to be drawn from hospital practice. Let us contrast shortly the circumstances of acquisition of knowledge from a case placed under your own care, and one as you generally look at it in hospital. In the former, the responsibility which you have incurred, the risk of loss of character, the desire to be successful, the anxiety of having a fellow-creature's life in your hands, all tend to awaken every faculty of the mind, and to call into exertion to the utmost every power of observation and of reasoning. In the hospital as you generally visit it, there are for the student none of those stimulants to mental exertion, and hence you pass over, as if they had never been presented to you, the many cases that occur. Thus you enter the profession without experience. But if you bring into your attendance upon hospital practice the same anxious solicitude about each case, the same care in observation, the same earnestness in reading it that you would employ in a private case in after-life, it is obvious the result as to the acquisition of experience would be equally great. This is, however, not the way in which the majority of students attend hospital practice. They seem to think that the sooner it is got over the better; and too many are content with "promenading" the hospitals, seeming altogether to have forgotten that the very subject they are neglecting is to constitute the whole business of their after-life. A student will spend hours in tracing in dissection in the dead body the branches of the fifth pair of nerves, and he will hardly spend five minutes in investigating its function and its alterations in disease in the living body. He will spend hours in unfolding the mucous follicles of the intestines, yet hardly bestow a passing glance on the obscure symptoms of their inflammation. He is familiar with every thing in the dead body, but he will not study what is of far more importance to him and to his patients, the alterations of the living body. He goes into practice deficient in the very point which concerns himself and his patients most—a knowledge of the living body, and of its alterations in disease. Why is this difference? Why is it that the very branch of study most necessary is thus neglected? Its neglect proceeds partly, I know, from ignorance; but more, I believe, from indolence. In other studies, as anatomy, chemistry, &c., characters are definitely marked; every thing is cut out as it were, defined and plain, without any exertion of a mental faculty; but in clinical medicine the study is very difficult. Symptoms vary, and lines of diagnosis exist, partly plain, but in other cases drawn out by a process of reasoning that requires much mental exertion. Hence it is, I believe, that indolence prompts to its neglect. In the ordinary way of walking an hospital nothing is gained: there is no exercise for the mind, and necessarily no improvement; and thus in too many instances the pupil who has walked the hospital leaves it without any practical information or experience. Neither will it ever be acquired in a way that many adopt, of even carefully noting down every observation that the teacher may mention as having occurred in disease, or the passing it in review. He notes in such cases only results. He does not practically know how they have been arrived at. He has no practical knowledge of the means of arriving at similar results in after cases, and he is like an idle engineer who has devoted his whole time to copying maps laid down for him by others, but who, if left

to himself, soon loses his way, and is ignorant of the mode of making observations for himself.

What is the mode, then, he is to adopt? Place himself as nearly as possible in the situation of a person in practice, acquiring experience in every case that comes before him, take on himself the duty of clinical clerk, thus becoming responsible for the investigation and treatment of every case submitted to him, bringing all his faculties of mind into operation, and at the same time acquiring experience. Adopt this plan, and you can acquire in a few years of hospital study an amount of experience that otherwise you should never afterwards be able to obtain. There is no substitute for the knowledge thus acquired. Books will not give it. What are books on medicine? Copies, too often bad copies, of the originals which are before you. Why leave the originals for the copies? What would you think of a man studying natural history or architecture, who, when he had the object before him, would turn away from it, and rather apply for information to an often obscure or erroneous written description of it; yet this is too often what is done in studying clinical medicine. If you will then adopt the plan proposed here, you will acquire in a short time that experience that otherwise it would cost you years to attain. I have still kept the three points I wish to impress on you in view:—

1st. That experience is the great quality on which you must depend.

2d. That it is in your power to obtain it even in early age, by availing yourself of hospital practice.

3d. That you can acquire it, but only acquire it by investigating disease in hospital, as you would afterwards do in private practice.

4th. That this is only to be done by acting as clinical clerks, investigating for yourselves and others, cultivating observation, memory, and reasoning together.

I will tell you a remarkable fact. I never knew a single person attain even tolerable eminence who had not acted as clinical clerk, and taken notes, not from his teacher, but for himself.

These points being I hope established, it now remains for me to show how far we can afford you opportunities here for acquiring that experience on which I have dwelt so much.

The extent of the field here is unrivalled in the kingdom. We have 144 beds devoted to fever and acute diseases, to small-pox and the exanthemata; 84 beds devoted to chronic and medical diseases, and 120 to surgical diseases; and attached to our institution is a large establishment devoted to the various forms of insanity. There is thus a field unrivalled for extent presented to you. Its extent affords facilities which in no other institution can be presented for enabling any student who is desirous to acquire experience in the way I have described, by being, if he chooses, clinical clerk for any number of cases he may be able to take charge of. But there are other unrivalled opportunities presented to you here for acquiring a knowledge of your profession, in the possession of a museum unequalled for information and interest. The preparations that are in it, the casts, the drawings, are all taken from cases that have been under our eyes. They give not only information of what has passed, but of what is taking place before you. Suppose the subject to be effusion into the pleura with displacement of the heart—instead of long and tedious verbal descriptions, here is the cast of it before you, such as occurred in a former case, and as exemplified in that now before us. Is it of effusion into the pericardium, instead of dry and difficult description, here it is as it occurred before, and as exhibited in the case before us. In the question of fever, and the cause of one form of fever terminating suddenly in convalescence on the fifteenth day, while in another the convalescence is only creeping on from day to day; here is the state of intestine that explains it, and these illustrations are far beyond any that could be drawn from purchased preparations, over the truthfulness or details of which we could have no check. Thus it is that we teach clinical medicine here, acting on the motto that is hackneyed, because it is true—

> "Segnis irritant demissa per aures,
> Quam quæ subjecta sunt oculis fidelibus."

Such are the points which I thought it necessary to impress on you on the present occasion. I have dwelt much, altogether on experience—only another name for observation and accumulation of facts. I have not said one word of genius. There is no such thing in medicine; there is no mistake you should more carefully avoid than the supposition that genius, talent, or cleverness can take the place of observation. Genius may give rise to bursts of eloquence, to flights of fancy; but it will not supply the place of observation in medicine and surgery. Indeed, among students themselves there seems to be unconsciously some notion of this, for when one of them is distinguished for mental qualities that, however ornamental, will not constitute what may be called a medical mind, he is usually designated a genius.

Cleverness is not a substitute for observation. You will see among you many who are distinguished for their quickness of answering, their facility of learning from books, and of quoting them, but who never acquire the character of practical men. They have been studying books, not men. Their mere book learning is not a substitute for observation. They are at the bed-side much in the state of a man who on entering a museum would attempt to rely upon written descriptions, in recognising and distinguishing various objects in it. Confusion, delay, and error would be his lot—he would not be a practical man.—*Dublin Hospital Gazette*, Nov. 1845.

French Views of Medical Reform.—Congress of Medical Practitioners now sitting in Paris.—"In France there has long existed an *inferior* class of practitioners, denominated Officiers de Santé. The members of the *superior* class all possess diplomas in Medicine or Surgery. The 'Doctors in Medicine,' and the 'Doctors in Surgery,' receive precisely similar educations, undergo the like examinations, and are equally eligible to fill all the public medical offices and appointments. These constitute one grade of practitioners in France; the Officiers de Santé constitute the other or inferior order. Should the superior and inferior grades be maintained? That was the question which the Congress undertook to discuss; when, with characteristic boldness, it was resolved, without a dissentient voice, that *the inferior ought to be abolished.* Thus the medical senators of France have announced, not only to the government of their own country, but to all others, that the legislature of every nation is bound to furnish the community with one well-educated and thoroughly qualified class of medical practitioners; and that a body of *inferior* acquirement, whether styled Officiers de Santé or Apothecaries, ought not to be recognised by the law. What will the manœuvring apothecaries of Blackfriars and Regent Street say to this decision?"—*Lancet*, Nov. 22, 1845.

China Medico-Chirurgical Society.—On the 13th of May last, the medical gentlemen of Hong Kong met at the residence of Dr Dill, and, under the above designation formed themselves into a body for reading essays and conversation. There were present Drs Tucker, Kennedy, Dill, O'Sullivan, Barton, Traill, Gilbert, Holgate, Young, Little, and Webber.

Obituary.—On the 9th November, Dr Badham, late Professor of Medicine in the University of Glasgow.

BOOKS RECEIVED.

(*Continued from page 884 of November number.*)

101. On Diseases of the Liver. By George Budd, F.R.S., Professor of Medicine in King's College, London. 8vo. *Plates.* Pp. 401. London: 1845.

102. Inaugural Address delivered at the Opening of the Norfolk and Norwich Museum, Sept. 10, 1845. By John Greene Crosse, M.D., F.R.S. Pp. 28. Norwich: 1845. [*Vide* p. 921.]

103. Narcotics and other Remedial Agents calculated to produce Sleep in the Treatment of Insanity. By Joseph Williams, M.D. 12mo., Pp. 120. London: 1845. [*Vide* p. 912]

104. Practice of Auscultation, and other Modes of Physical Diagnosis. By H. M. Hughes, M.D., Assistant Physician to Guy's Hospital. 12mo. Pp. 246. London: 1845.

105. Descriptive and Physiological Anatomy of the Brain, Spinal Cord, and Ganglions; and of their Coverings. Adapted for the use of Students by Robert Bentley Todd, F.R.S., Physician to King's College Hospital, and Professor of Physiology in King's College, London. 12mo. Pp. 284. London: 1845.

106. Analysis of the Blood and Urine in Health and Disease; and on the Treatment of Urinary Diseases. By G. Owen Rees, M.D., F.R.S., Assistant Physician to Guy's Hospital. 8vo. Pp. 218. London: 1845.

ERRATA IN OCTOBER NUMBER.

Page 786, line 3,	*pro*	Ferguson	*lege*	Fergusson.
Page 789, line 10,	„	virus	„	other.
Page 789, line 18,	„	lavor	„	lower.
Page 796,	„	cold	„	colic.

TO OUR READERS AND CORRESPONDENTS.

The present Number concludes the volume of the MONTHLY JOURNAL OF MEDICAL SCIENCE for 1845, and with it the fifth year of the existence of the work.

We cannot make this announcement without acknowledging, in the most grateful manner, the support which has been extended to this Journal for a period, certainly not long in duration, but one unusually prolific in medical periodical literature. In the new volume every effort will be made, not only to maintain the position which the work already enjoys, but to introduce such new features as will establish additional claims to the support of the profession. Greater development will be given to the REVIEW DEPARTMENT, so as completely to overtake at least the *practical* publications of the day. It will continue to be our pride to insert ORIGINAL COMMUNICATIONS from all quarters. Ours are peculiarly the times when large and liberal views should be adopted, and when local and passing prejudices should be buried and forgotten.

We have received a great number of papers for publication. We will communicate with the authors by private letter. The communications of Dr Neligan, and of Dr A. Hall have not yet come to hand.

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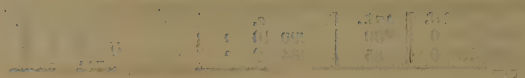

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